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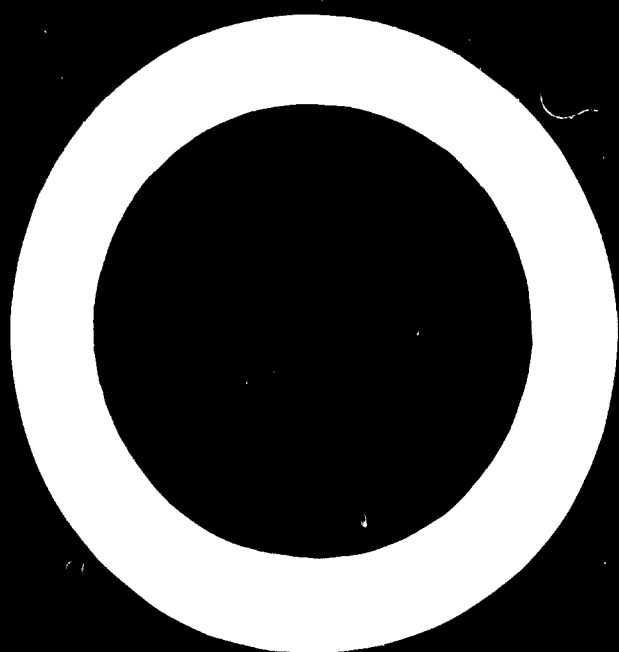
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Problems and Prospects*

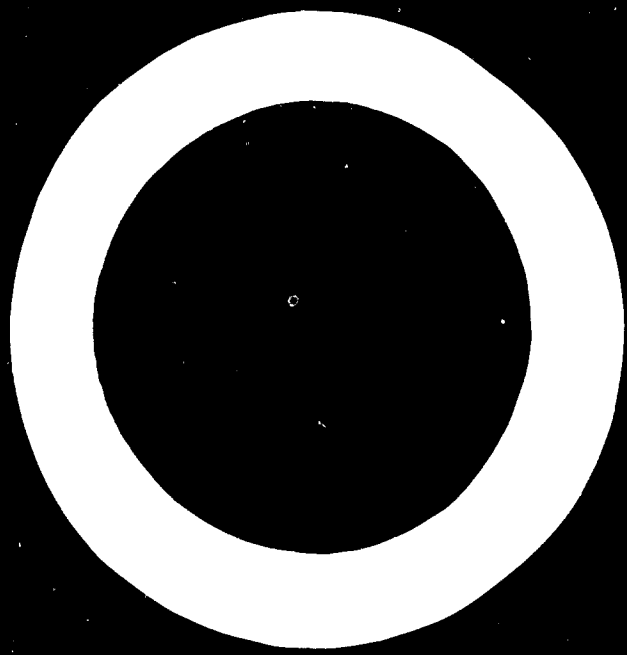
**GENERAL ISSUES OF
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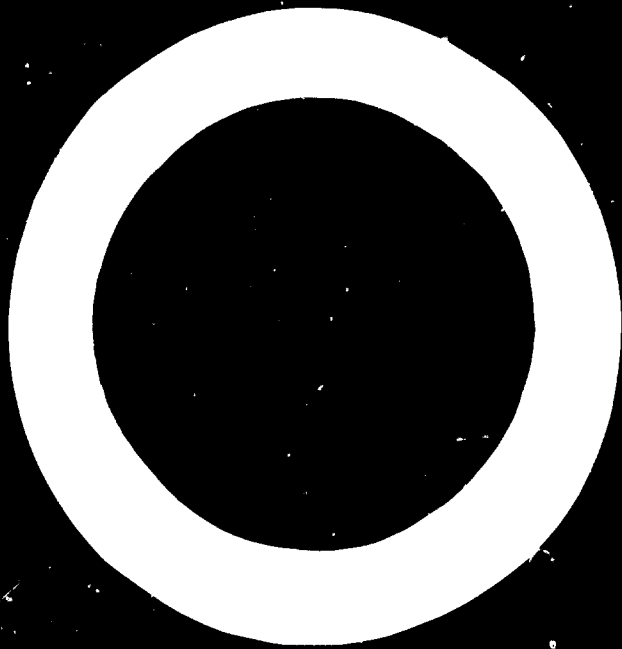


UNITED NATIONS





GENERAL ISSUES OF INDUSTRIAL POLICY



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
VIENNA

UNIDO MONOGRAPHS ON INDUSTRIAL DEVELOPMENT

*Industrialization of Developing Countries:
Problems and Prospects*

MONOGRAPH NO. 20

GENERAL ISSUES OF INDUSTRIAL POLICY

Based on the Proceedings of the International
Symposium on Industrial Development
(Athens, November-December 1967)



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Foreword

The International Symposium on Industrial Development, convened by UNIDO in Athens in 1967, was the first major international meeting devoted exclusively to the problems of industrialization of the developing countries. It followed a series of regional symposia on problems of industrialization held in Cairo, Manila and Santiago in 1965—1966 under the sponsorship of UNIDO and the United Nations regional economic commissions, and a similar symposium held in Kuwait in 1966 under the sponsorship of UNIDO and the Government of Kuwait.

The Athens Symposium was attended by some 600 delegates from 78 countries and by representatives of various United Nations bodies, international organizations and other interested institutions in the public and private sectors. It provided a forum for discussion and exchange of views on the problems and prospects of the developing countries which are engaged in promoting accelerated industrial development.

The Symposium devoted special attention to possibilities for international action and for co-operative efforts among the developing countries themselves, and explored the scope, means and channels for such efforts.

Studies and papers on a wide range of problems relating to industrialization were presented to the Symposium—by the UNIDO secretariat and by participating Governments, international organizations and observers. An official report, adopted at the Symposium, has been published by UNIDO.¹ Based on this documentation and the discussions in the meeting, the present series of monographs is devoted to the 21 main issues which comprised the agenda of the Symposium. Each monograph includes a chapter on the issues presented, the discussion of the issues,

¹ *Report of the International Symposium on Industrial Development, Athens 1967* (ID/11) (United Nations publication, Sales No.: 69.II.B.7).

and the recommendations approved by the Symposium. Some of the monographs deal with specific industrial sectors; some with matters of general industrial policy; and others with various aspects of international economic co-operation. An effort has been made to make the monographs comprehensive and self-contained, while the various economic, technological and institutional aspects of the subject matter are treated within the context of the conditions generally prevailing in the developing countries.

Since economic, technological and institutional aspects are described with particular reference to the needs of the developing countries, it is felt that the monographs will make a distinct contribution in their respective areas. They are intended as a source of general information and reference for persons and institutions in developing countries concerned with problems of industrialization, and particularly with problems and issues of international co-operation in the field of industrialization. With this in view it was considered that an unduly detailed technical presentation should be avoided while at the same time enough substantive material should be offered to be of value to the prospective reader. For a more elaborate treatment of the subject, the reader is referred to the selected list of documents and publications annexed to each monograph.

The annexes also contain information on the areas in which UNIDO can provide technical assistance to the developing countries on request; a selected list of major UNIDO projects in the respective fields; and a list of meetings recently organized by the United Nations.

It is hoped that the monographs will be particularly useful to Governments in connexion with the technical assistance activities of UNIDO and other United Nations bodies in the field of industrial development.

This monograph has been prepared by the secretariat of UNIDO.

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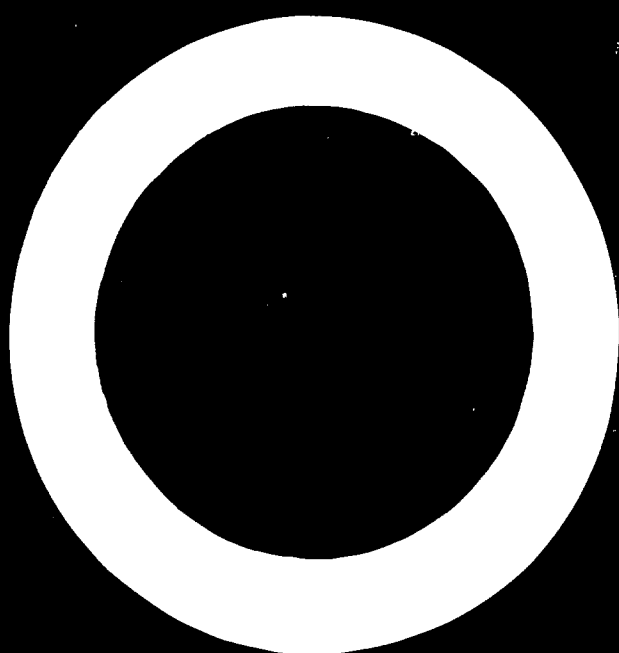
EXPLANATORY NOTES

Billion refers to thousand million.

Dollar (\$) refers to US dollar unless otherwise specified.

The following abbreviations are used in this monograph:

ECAFE	Economic Commission for Asia and the Far East
ECLA	Economic Commission for Latin America
FAO	Food and Agriculture Organization
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
ILPES	Instituto Latinoamericano de Planificación Económica y Social
ILO	International Labour Organisation
ISIC	International Standard Industrial Classification
OECD	Organisation for Economic Co-operation and Development
UNCTAD	United Nations Conference on Trade and Development
UNESOB	United Nations Economic and Social Office in Beirut
UNIDO	United Nations Industrial Development Organization



INTRODUCTION

The title of this monograph—"General Issues of Industrial Policy"—has been carefully chosen. The monograph discusses some of the broad general issues which Governments of developing countries face when establishing objectives for their industrialization programmes and formulating plans and policies to implement them.

General issues of industrial policy were considered at the International Symposium on Industrial Development as an introduction to the discussion of the action, policies and measures which developing countries could adopt in many different areas to accelerate the process of industrialization. Separate monographs have been prepared on each of these subjects.

The main theme of this monograph is that the formulation of industrial policies, industrial policy measures and other courses of action adopted by Governments should be based on clearly defined objectives established for industrialization programmes. The first five chapters, therefore, concentrate on a discussion of possible objectives; these objectives are then presented as a checklist at the beginning of chapter 6.

Chapter 1 suggests that Governments of developing countries should aim at improving the quality of their industrialization programmes as well as at achieving more rapid industrial growth.

Chapter 2 discusses the relationship between the industrialization process and the development of other sectors of the economy; it concludes that many developing countries, when defining the pattern of sectoral development they expect to achieve within the industrial sector, will have to place more emphasis on the development of branches of industry producing intermediate and capital goods rather than consumer goods.

Chapters 3 and 4 show how the formulation of objectives for the industrialization programme must be harmonized with, and form an integral part of, the objectives established for the economy as a whole. *Chapter 3* deals with the effect of industrialization on the balance of payments and suggests that the development of export-oriented industries

should not await exhaustion of the possibilities of import substitution. *Chapter 4* considers the relationship between industrialization and certain other national economic policy objectives, such as increasing employment opportunities and ensuring a more equitable distribution of personal income and wealth and a geographically decentralized pattern of economic development.

In *chapter 5*, the financial, manpower and technological resources required to implement a programme of industrialization are considered. It is suggested that the main need is to establish appropriate institutions for financing industrial development, for training the manpower required by industry, and for developing technology suitable for the country's circumstances and resources endowment. In addition, some more general economic policies may require adaption to meet the needs of the industrial sector.

Chapter 6 examines how the formulation of industrial policies and policy measures is related to the achievement of one or more of the major objectives discussed in the earlier chapter. To illustrate the complex nature of policy formulation, policy measures to promote industrialization and policy measures to guide and control the process of industrialization are discussed in more detail.

Chapter 7 presents the issues as they were raised for discussion at the International Symposium, summarizes the discussion and lists the recommendations made. The chapter attempts to group the issues raised and the points discussed in a way which conforms with the presentation of the subject in this monograph.

Chapter 8 describes UNIDO's programme of activities in the area of industrial policies. In the two years that have elapsed since the International Symposium, the programme of activities has moved on from identifying objectives for the programme of industrialization to the development of a programme of technical assistance in the formulation and implementation of a set of industrial policies and industrial policy measures.

To develop the experience and knowledge required to provide advice in this important and complex field, UNIDO is studying the policies and industrial policy measures that have been used by both developing and industrially advanced countries. The aim is to develop a detailed, pragmatic and systematically analysed body of knowledge on the effect that different packages of industrial policies have had on the rate, direction and quality of industrial development in different countries.

LEVEL, RATE AND QUALITY OF INDUSTRIALIZATION IN DEVELOPING COUNTRIES

At the International Symposium, the stage which industrialization had reached in developing countries was discussed as an introduction to the more detailed discussion of general issues of industrial policy. This introductory chapter therefore considers the level which industrialization has reached in the developing countries and the rate of progress which has been achieved in recent years. Finally, a method of analysing the quality of industrialization which has taken place so far in the developing countries is suggested.

LEVEL OF INDUSTRIALIZATION

One of the most noticeable features of the economic structure of most developing countries is the small contribution to GDP made by the manufacturing industry. For the developing countries as a group, recent estimates show that the contribution of the manufacturing industry to GDP increased from 14.5 per cent in the years 1950—1954 and 16 per cent in the years 1955—1959 to about 18 per cent in the years 1960—1964. By comparison, the average contribution in the industrially advanced countries with market economies was 30 per cent in the early 1950s and just over 31 per cent in the early 1960s.¹

This global comparison hides considerable differences which exist as between one developing country and another. In Asia, for example, in the years 1961 to 1963, the average contribution of the manufacturing industry to GDP was estimated to be about 5 per cent in Ceylon and 7 per cent in Indonesia, about 16 per cent in the Philippines and India, and about 20 per cent in China (Taiwan).²

¹ *Industrial Development Survey*, Vol. I; for full reference see annex 3 under "United Nations Industrial Development Organization".

² *Economic Survey for Asia and the Far East*; for full reference see annex 3 under "Economic Commission for Asia and the Far East". The figures provide only a very rough comparison owing to difference in the basis of estimates.

In most developing countries, the industrialization process is characterized by a steady increase in the manufacturing sector's contribution to GDP. In Argentina, the manufacturing sector's contribution increased from about 20 per cent in 1900 to 26 per cent in 1940 and 33 per cent in 1958; in Brazil, from 12 per cent in 1930 to 27.5 per cent in 1960; in Mexico, from 15 per cent in 1930 to 22.5 per cent in 1960.³ However, in India the contribution seems to have remained at about 16 per cent between the early 1950s and the early 1960s.⁴

The total industrial output of developing countries was roughly one twentieth of total world production of manufactured goods in the early 1960s. On a *per capita* basis, their average output in the early 1960s was \$20 as compared with \$600 (1958 prices) in the developed countries. Many African and Asian countries were below the \$20 *per capita* average; for example, India's average was \$12, Pakistan's \$8 and Indonesia's \$4.

RATE OF PROGRESS IN RECENT YEARS

During the period 1955-1964, the average annual growth rate of manufacturing output in the developing countries as a group was about 7 per cent. There was not much difference in the rate of progress of industrialization in different regions; between the second half of the 1950s and the first half of the 1960s, the average annual growth rate of manufacturing output was close to 6 per cent in Latin America, probably within the range of 7 and 8 per cent in Africa, and about 8 per cent in Asia. The average figures for groups of developing countries do, however, hide considerable differences in the performance of individual countries and the performance of any one country as between one year and another.

A more recent estimate of the growth of manufacturing output in the period 1960-1967 has been made by the World Bank Group. This suggests that the growth rate has been 7.3 per cent in the developing countries as compared with 5.6 per cent in the industrialized countries. The growth rates in different regions are estimated as follows:⁵

³ *The Process of Industrial Development in Latin America*; for full reference see annex 3 under "Economic Commission for Latin America".

⁴ *Economic Survey for Asia and the Far East*; for full reference see annex 3 under "Economic Commission for Asia and the Far East".

⁵ Commission on International Development (Chairman: L. B. Pearson), *Partners in Development*, p. 36; for full reference see annex 3 under "Other sources".

	<i>Percentage</i>
Africa	7.3
South Asia	6.0
East Asia	6.9
Southern Europe	10.1
Latin America	5.5
Middle East	10.8

The past performance of the industrial sector in developing countries can be considered from several points of view. While some developing countries had developed a sizeable industrial sector by 1955, most of them had not done so; the 7 per cent annual growth rate of the period 1955 to 1964, therefore, started from a rather small base. The rate of growth of manufacturing output has not been fast enough to satisfy the growing demand for manufactured goods in developing countries; as a result, the developing countries as a group have had to import a greater volume of manufactured goods from the developed countries in the 1960s than they did in the late 1950s. The proportion of goods imported, however, has fallen somewhat as a result of industrialization; had it not fallen, developing countries would have needed to import additional manufactured goods to the value of \$3,000 million annually in the early 1960s.

The 7 per cent growth rate achieved in the early 1960s may be compared with the estimated annual growth rate of output in the manufacturing sector of 8.6 per cent required for the developing countries to reach the General Assembly's target of a minimum annual increase of 5 per cent in their aggregate national income in the first Development Decade.

In many developing countries, the growth of manufacturing output in the 1950s and early 1960s fell short of the targets set in their official economic development plans.

QUALITY OF INDUSTRIALIZATION

The quality of industrialization in a developing country can be judged by different criteria: in terms of economic efficiency, by examining the extent to which the industrial projects established have made optimum use of the investment and other resources used; in terms of technical or operating efficiency, by examining the manufacturing cost of the goods produced; in terms of the contribution to national income and hence to the balance of payments, by measuring the value added in the manufacturing process; and in qualitative terms (in the normal sense), by comparing the quality of the manufactured goods produced with that of goods produced in industrially advanced countries.

In industrialization, as in most other areas, quality is the area in which it is hardest to reach a high level of achievement. As industrialization consists of the implementation or expansion of a continuing and ever-growing series of individual industrial projects, quality is extremely difficult to promote or control. Yet the qualitative aspects of industrialization are those which attract most attention in the industrially advanced countries. They are also receiving much more emphasis in the developing countries, particularly in those which look to the manufacturing sector for an expansion of exports.

The selection of the sectors of industry in which manufacturing plants are established has a considerable bearing on the economic efficiency of the industrialization process. That is why chapter 2 discusses the pattern of sectoral development within the industrial sector and the relationship of the industrialization process to the development of other sectors of the economy. This is largely a matter of formulating and implementing a well-conceived programme of industrialization, a subject discussed in monograph 17 in this series. It may be difficult to achieve a perfectly integrated and consistent pattern of industrialization, but it should be possible to promote the establishment of projects that manufacture products in which a country has a comparative advantage and avoid manufacturing products whose manufacturing cost is excessively high by international standards. Resources used to establish and operate badly selected industrial projects would have been better utilized in establishing and operating other types of industrial enterprises or in establishing development projects in other sectors of the economy.

A related aspect of the problem of quality is that of operating efficiency. There are many ways of measuring the efficiency of a manufacturing unit, but probably the most satisfactory is to compare the manufacturing cost of producing any given product in a developing country with that of producing it in one or more industrially advanced countries. The need for considering this aspect of industrialization is obvious enough. If products are manufactured inefficiently at a high cost, the standard of living of consumers suffers once imports are replaced by local production. Only efficient units can be expected to compete in export markets without excessive subsidies. The establishment of inefficient manufacturing units represents a poor use of available resources.

Another aspect of the problem is the contribution which local manufacture makes to national income. If the manufacturing process in the developing country consists simply of an assembly-type operation,

the value added by the local manufacturer is likely to be only a small fraction of the final selling price. In such cases, the industry's contribution to reducing imports may be very small; if the final product can be imported at advantageous prices, the cost of importing components, parts and raw materials and the annual charge for imported plant and machinery may result in the project's making a negative rather than a positive contribution to the balance of payments.

Where the value added in a manufacturing process is low, many developing countries have adopted measures to encourage or even oblige local enterprises to make greater use of local supplies or to manufacture locally a greater number of the components and parts required for the final product. In countries where this policy has been pushed vigorously for balance-of-payments reasons, the manufacture of certain parts and components has been promoted in ways that can only be described as highly inefficient. The production of cars, buses and trucks in developing countries provides one of the best documented examples of this conflict between the objectives of maximizing the value added (and hence saving foreign exchange) and creating efficient manufacturing units. In a recent study made by the World Bank Group, it was estimated that the developing countries had spent some \$2.1 billion in domestic resources in 1965 to manufacture automotive products that had a world market value of \$800 million.* The calculation is a rough one, but it shows quite clearly the importance of using efficiency as a criterion when establishing industrial policies to promote, guide and control the process of industrialization in developing countries.

A final qualitative aspect of industrialization is the quality of the goods themselves. Many observers have noted a tendency for goods manufactured in developing countries to be of a lower quality than the imports they replace. It would be misleading to make any generalizations on this point; all that can be said is that most developing countries should pay special attention to this aspect of industrialization, particularly if they wish to increase their exports of manufactured goods. Various measures can be used to promote the development of higher quality manufactured goods. The question of standardization is considered in Monograph 12. Quality control at the enterprise level is largely a question of industrial management, which may call for special measures when the stimulus provided by import competition is temporarily absent.

* Quoted by the President of the World Bank Group, Mr. Robert S. McNamara, in his address to the Board of Governors of the World Bank Group, Washington, D.C., 29 September 1969.

IMPLICATIONS FOR THE FORMULATION OF INDUSTRIAL POLICIES

One general conclusion from this brief survey is that, while most developing countries will wish to formulate industrial policies which promote a faster rate of industrialization than that achieved so far, they will also have to pay much more detailed attention to the qualitative aspects of their industrialization programmes. Careful selection of projects is an important element in improving the quality of industrialization, but, if quality is to become a recognized objective of industrialization policy, specific policy measures must be designed to enforce or reinforce it.

However, quality and more rapid progress are not the only objectives of the industrialization programme that have to be considered. Balance of payments and other natural economic objectives, and policies to mobilize the resources required to implement the industrialization programme, have to be considered as well. A suggested list of industrial and national economic policy objectives on which policies for promoting, guiding and controlling industrialization programmes can be based is presented in chapter 6.

INDUSTRIALIZATION AND THE DEVELOPMENT OF OTHER SECTORS OF THE ECONOMY

A common criticism of the official plans for economic development in developing countries is their failure to relate the targets and objectives established for the industrialization programme to the plans established for the development of other sectors of the economy.

INDUSTRIALIZATION AND THE AGRICULTURAL SECTOR

It is now widely recognized that industrialization and the development of agriculture are in no way alternative goals of development policy, but complementary and mutually supporting processes. An imbalance between the growth of agriculture and industry can have unfortunate consequences on the growth of the economy as a whole.

If the agricultural sector grows too slowly, it can restrict the growth of consumers' purchasing power and hence the domestic market for industrial products. If, at the same time, the output of the agricultural sector is not large enough to meet the local demand for food, the balance of the food required will have to be imported; the use of foreign exchange for this purpose may mean that imports of capital equipment, raw materials and component parts needed by the industrial sector have to be restricted. It is therefore probably fair to conclude that, in a number of developing countries, the slow growth of agricultural production in the last decade has acted as an obstacle to faster industrialization.

Inadequate development of the industrial sector can handicap the growth of the agricultural sector. An expanding agricultural sector requires steadily increasing supplies of fertilizers and pesticides; it also creates a steady demand for agricultural machinery, tools, storage facilities and so on. The local production of these goods can form an important element of the emerging industrial sector. However, experience in the last decade shows that adequate local supplies of these items—

particularly fertilizers—have not been developed in many developing countries; as a result, imports of these items have added considerably to an already acute shortage of foreign exchange. When such a shortage of foreign exchange occurs, the industrial sector often suffers most; but the agricultural sector may also suffer from a shortage of necessary supplies.

Some aspects of the relationship between the agricultural and industrial sectors may have been studied in terms of an input-output analysis. The major manufacturing industries which serve directly as outlets for the products of the agricultural sector are food, beverages and tobacco processing, oils and fats processing, and the textile, clothing, leather, wood, pulp, paper and rubber sectors. In developing countries taken as a group, the industries which process agricultural products still account for a major part of the value added in the industrial sector. A study of the data of three developed and five developing countries shows that, for each \$1 million of value added by industries processing agricultural products, agricultural produce to nearly the same value is purchased from the agricultural sector.⁷ The stimulus to the development of other sectors does not stop there. For each \$1 million of value added in the same industries, about \$150,000 worth of plant and machinery is required and about \$400,000 worth of other supplies in the form of energy and materials produced by the construction or other sectors of the economy.⁸

However, these statistical studies do not do full justice to the importance of the relationship between industrialization and agriculture. Not all the implications can be explored here. It is worth noting, however, that industrialization can help provide the incentive, the means and the discipline for transforming a traditional agricultural society into one which makes more widespread and effective use of modern production techniques.

INDUSTRIALIZATION AND THE CONSTRUCTION SECTOR

The relationship between the industrialization programme and the construction industry in developing countries has attracted less widespread attention. However, it is equally important. The construction industry in developing countries is typically one of the fastest growing

⁷ *Industrial Development Survey*, Vol. I, p. 24; for full reference see annex 3 under "United Nations Industrial Development Organization".

⁸ *Ibid.*

sectors of the economy. In many developing countries, the shortage of building materials has at times held up progress in the construction industry. More attention should therefore be paid to anticipating the rapidly expanding demand for building materials of the construction sector.

INDUSTRIALIZATION AND THE DEVELOPMENT OF NATURAL RESOURCES

The natural resources of many developing countries are now much better known than they were some 20 years ago, thanks to the developing countries themselves, which view surveys of these resources as an essential starting point of their development planning, and to the assistance provided in making such surveys by the United Nations system of agencies and bilateral sources. Further industrial development based on these natural resources can proceed along two directions in the years ahead.

First, considerable scope exists for constructing additional processing capacity to meet the growing demand of both the domestic market and the markets of other, not necessarily neighbouring, developing countries. Not every developing country is endowed with a wide range of mineral and other natural resources that can be exploited commercially; opportunities therefore exist for increasing the volume of purchases of processed primary commodities from other developing countries to replace purchases from industrially advanced countries.

Second, there may be opportunities for establishing a higher degree of processing of some primary commodities that are at present exported to the developed countries in an unprocessed or only slightly processed form. Many factors account for the present situation. In some industrially advanced countries, the structure of tariff protection provides a strong incentive for this processing to take place in the industrially advanced country rather than in the developing country that produces the primary commodity. Among the commodities that can be considered in this connexion are: ferrous and non-ferrous metals; petroleum, wood and forest products; beverage crops; natural fibres and hides and skins.

THE PATTERN OF SECTORAL DEVELOPMENT WITHIN INDUSTRY

It is difficult to generalize about the pattern of sectoral distribution that has evolved in the industrial sector in developing countries. The pattern varies from country to country; there have also been marked changes in the pattern at various stages of the industrialization process in the same country.

Estimates in a recent study of international development suggest that the developing countries produce about two thirds of the manufactured consumer goods they need, about 40 to 50 per cent of the intermediate goods and 20 to 30 per cent of the capital goods.⁹

Another way to study the sectoral pattern is to divide industry into light and heavy manufacturing industries.¹⁰ Defined in this way, it appears that, at the beginning of the 1960s, most of the developing countries had an industrial structure in which the heavy manufacturing industries contributed between 20 and 40 per cent of their total manufacturing output, whereas the typical proportion for industrially advanced countries was between 50 and 67 per cent. On this basis, it is estimated that the growth in the output of light industries was slightly more than 5 per cent between the latter half of the 1950s and the first half of the 1960s; the average annual increase in output for the heavy industries over the same period was over 9 per cent from a much smaller base.

Of the so-called light industries, the most important in the developing countries are food processing and textiles. Both these industries appear to have been growing at an average annual rate of 4 to 5 per cent in recent years, taking the developing countries as a group. In most developing countries, the expansion of production in these branches of industry has sufficed only to meet growing local demand; only a small part of the increase in production has been exported.

These statistics suggest that many of the developing countries will have the opportunity to place increased emphasis on the development of heavy industries in the future. There would appear to be considerable opportunities for developing such major branches of industry as metal products, chemicals, pulp and paper and petroleum products. The metal products group alone, which includes the engineering industry, commonly accounts for about 30 per cent of total manufacturing output in industrially advanced countries. The emphasis which any one developing country places on the development of heavy industry in the future will depend on the stage of industrialization reached, the broad general strategy chosen for further industrialization, the changes that occur in the pattern of national demand as personal incomes rise in the years ahead and the extent to which multinational co-operation is developed.

⁹ Commission on International Development, *op. cit.*, p. 37.

¹⁰ *Industrial Development Survey*, Vol. I, p. 26; for full reference see annex 3 under "United Nations Industrial Development Organization". Light industries include ISIC major groups 20—26, 28—30 and 39; heavy industries include ISIC major groups 27 and 31—38.

INDUSTRIALIZATION AND FOREIGN TRADE

Plans and policies for industrialization are an integral part of the plans and policies developed for the economy as a whole. The formulation of industrial policies must therefore take account of national economic policy objectives. One of the most important of these is improvement in the balance of payments. This chapter therefore considers the effects of industrialization on the balance of payments. It suggests that import substitution and export-oriented patterns of industrialization should not be considered as alternative goals of industrial policy. Finally, it indicates that the developing countries represented at the regional symposia saw opportunities for expanding their exports of manufactured goods both to other developing countries, particularly through schemes of regional co-operation, and to the industrially advanced countries. These subjects are dealt with in more detail in Monographs 18 and 19.

EFFECTS OF INDUSTRIALIZATION ON THE BALANCE OF PAYMENTS

Industrialization is likely to put pressure on the balance-of-payments position of a developing country unless it is accompanied by an adequate expansion of export earnings. The import substitution process does not necessarily lead to a contraction in the total volume of imports. The industrialization process and the rapid development of other sectors require a steadily expanding supply of capital goods, parts and components, raw materials and fuel, most of which must be imported. The rising volume of imports in these categories is seldom offset by a corresponding decline in the volume of imports of consumer goods and other manufactured goods produced locally for the first time.

At some stage in industrialization, therefore, many developing countries have faced a situation where the demand for imports has outstripped the economy's ability to finance them. The size and duration of the resulting balance-of-payments deficit has varied from country to country; the underlying reasons depend on many and different factors

in each case. But the policy implications for the Governments concerned have been the same. The shortage of foreign exchange has acted as a constraint on the further rapid development of the economy as a whole and the industrial sector in particular.

More detailed research on the relationship between the industrialization process and the emerging structure of imports is therefore required if developing countries are to be able to make a realistic appraisal of the effects of their industrialization programme on the balance of payments, and to reflect these estimates in their future plans and policies for the development of the industrial sector and the economy as a whole.

IMPORT SUBSTITUTION AND EXPORT-ORIENTED PATTERNS OF INDUSTRIALIZATION

No uniform policy of industrial development can be established for developing countries of different sizes and at different stages of industrialization. However, if there was one aspect of industrialization policy on which general agreement was reached at the International Symposium, it was that most developing countries had much to gain by switching from an inward-looking to an outward-looking pattern of industrial development.

The discussions at the regional symposia revealed that some developing countries felt that they had almost reached the limits of import substitution; for other countries, it was still a major element of their industrial policy; for the small and least developed countries, some form of regional co-operation was seen to be necessary if import substitution was to proceed very far at this stage of their industrialization.

The strength and limitations of import substitution are readily apparent. In the early and interim stages of industrial development, a vigorous programme of substituting locally manufactured goods for imports of manufactured goods can permit the production of the industrial sector to grow more rapidly than the demand for industrial goods. At this stage of industrialization, therefore, industry can be the leading and most dynamic sector of the economy. Nevertheless, rapid industrialization based only on import-substitution possibilities is likely to place increasing pressures on the balance of payments.

To alleviate pressures on the balance of payments, many developing countries have pursued trade and foreign-exchange control policies that

have indirectly helped to accelerate import substitution. Import controls and/or higher tariff protection introduced for balance-of-payments reasons have broadened the range of manufactured products for which local manufacture becomes profitable and in some cases essential. It is not surprising, therefore, that a study of the experience of Latin American countries should have concluded that "the rate and patterns of industrial development were largely determined (in the past) by the behaviour of the external sector. Import substitution thus represented, at one and the same time, an imperative requisite for the over-all development of the Latin American economies and one of the mainsprings of their industrialization process".¹¹

Trade and foreign-exchange policies, dictated by the situation and circumstances of the economy as a whole, have thus played an important role in many developing countries in creating the policy framework within which the industrialization programme has been implemented.

It is recognized that increased exports of manufactured goods can do much to resolve the balance-of-payments problem of many developing countries by offsetting the effect on these countries' export earnings of the relatively inelastic long-term demand for their primary products. In addition, it can soften the impact of the short-term instability of their export earnings from primary products, which are subject to strong cyclical influences. For these reasons, and because the supplying of export markets gives developing countries the opportunity to benefit from the economies of large-scale production, it is recognized that for many developing countries a policy aimed at stimulating the expansion of exports of manufactured goods deserves special emphasis. Such a policy should not await the exhaustion of the possibilities of import substitution.

When an export-oriented pattern of industrialization is discussed, a distinction should be made between exports to other developing countries (a goal that can be facilitated by closer regional co-operation) and exports to industrially advanced countries. The first type of development certainly represents an outward-looking pattern of industrialization, but from a regional standpoint it can also be viewed as a continuation of import substitution, with the local market replaced by the regional market.

¹¹ *The Process of the Industrial Development in Latin America*; for full reference see annex 3 under "Economic Commission for Latin America".

INCREASING EXPORTS THROUGH REGIONAL CO-OPERATION

The Symposium on Industrial Development in Latin America noted a distinct weakening in the import substitution process at the national level in most countries of the region; the countries represented agreed, however, that import substitution could continue if items currently imported from outside the region were replaced by items produced locally at scales of production that took into account the market of the Latin American countries as a whole. That would lead to a considerable increase in trade in manufactures among the countries of the region and would therefore provide a fresh stimulus to industrial development. Continuation of import substitution along those new lines would require the gradual economic integration of all the Latin American countries.

The Asian Conference on Industrialization recognized that the limited size of the domestic markets inhibited dynamic growth in the industrial sector of most of the developing countries in the ECAFE region. This is particularly true for smaller countries which desire to establish industries such as iron and steel, non-ferrous metals, industrial machinery, electrical equipment, transport equipment, farm machinery and heavy chemicals on a national basis, since these industries are highly capital-intensive and require large and expanding markets to obtain the desired economies of scale. Most of the smaller countries of the ECAFE region would therefore find it hard to achieve a breakthrough in economic growth by their own efforts alone. There would be need for effective planning and implementation of national development plans and programmes, for subregional co-operation in harmonizing these national plans, programmes and projects, including the practical arrangement of suitable industrial joint ventures on a bi national or multinational basis, and for the assistance of the developed countries.

The advantage of economic co-operation and industrial co-ordination was emphasized at the Symposium on Industrial Development in Africa. Such co-operation would permit economies of scale in major industries and provide the necessary market for economically sized units. The problem of small markets and other bottlenecks could thus best be dealt with on a regional or multinational level. At the same time, it was suggested that the groundwork for subregional or multinational co-operation should include detailed studies of the resources of individual countries and the development of their infrastructure, particularly of transport and communications among countries. It was also noted that, however able and unremitting the efforts towards subregional or regional economic

integration from the technical standpoint, results would always be ephemeral unless a minimum of political stimulus was provided.

The Symposium on Industrial Development in the Arab countries noted that the creation by individual Arab countries of industries which more or less duplicated those in other Arab countries, without regard to the market situation, stood in the way of establishing certain large-scale industries in the region. There was therefore a need for industrial co-ordination among the Arab countries as well as for specialization and diversification, with each country specializing in the type of production for which it was most suited, taking into account the relative abundance of its resources and the capacity of the market to absorb the products.

INCREASING EXPORTS TO INDUSTRIALLY ADVANCED COUNTRIES

The Symposium on Industrial Development in Latin America emphasized the need to increase and diversify exports of manufactures to other parts of the world; it recognized that large-scale production and advanced techniques would be required to achieve that goal.

At the Symposium on Industrial Development in Africa, the problem of the export of manufactured goods from developing to developed countries was extensively discussed, and it was generally felt that additional efforts must be made to gain access to markets in developed countries. In the meantime, African countries should strive to attain a high level of quality in their industrial products and should promote intra-African trade. It was agreed that export markets could be secured only through intensive effort and efficient organization, and that the efficiency of industries was improved if the market was carefully studied. That there was scope for exports was evident from a study of recent statistics, which showed that exports of manufactured goods from developing to developed countries had been increasing steadily.

The Asian Conference on Industrialization expressed concern over the extremely low share of the ECAFE region in world trade in manufactures and semi-manufactures, amounting to only 2.9 per cent of the world total, especially in the context of an increasing growth in world trade in manufactures. The Conference therefore recommended that the opportunities and outlook for trade in manufactured products be fully considered in future industrial planning in countries of the region. The

Conference noted that increased exports of manufactures and semi-manufactures would provide the region with the foreign exchange needed to pay for the increased imports required for industrialization, provide newly established industries with sufficiently large markets to enable them to achieve economies of scale and reduce the unit cost of production, help reverse the unfavourable trend in the terms of trade of the ECAFE region, and contribute to the economic independence of the countries of the region.

INDUSTRIALIZATION AND OTHER NATIONAL ECONOMIC POLICY OBJECTIVES

Many national economic policy objectives other than the improvement of the balance of payments have to be considered in the formulation of plans and policies for the industrial sector. One of these objectives is full employment. Since industrialization is often cited as a powerful means of resolving the unemployment problem in developing countries, that subject will be considered first. Another objective is to achieve a more equitable distribution of income and wealth; that subject will be considered next. Yet another objective is to spread the benefits of economic development to the different parts of a country; that subject is briefly outlined.

EMPLOYMENT OBJECTIVES

Although industrialization is sometimes viewed as a means of resolving the problem of unemployment in developing countries, all the evidence suggests that the direct effects of industrialization in creating employment are disappointing. Statistics show that, while the output of the industrial sector of the developing countries as a group increased at an average annual rate of 7 per cent between the mid-1950s and the mid-1960s, employment in this sector increased by an average annual rate of only some 4 per cent.¹²

The elimination of structural unemployment in developing countries is therefore best considered as a major objective of economic development as a whole. Modern industry generally has a low absorptive capacity for labour in relation to the amount of capital invested; it contributes to resolving the unemployment problem to the extent to which it promotes the more rapid development of the economy as a whole. Thus, although the industrialization process has substantial indirect employment-creating

¹² *Industrial Development Survey*, Vol. I, p. 229; for full reference see annex 3 under "United Nations Industrial Development Organization".

effects, it would be difficult, and perhaps meaningless, to try to isolate the increases in employment resulting directly from the industrialization process.

The objective of creating employment has important policy implications for planners and policy-makers in developing countries in two areas. The first relates to the choice of technology for implementing industrial projects; the second relates to the social problems created by the very rapid increase in the urban population of developing countries.

The choice of the manufacturing process to be used in an industrial enterprise in a developing country is a complex one. Critics have often said that foreign investors, and perhaps domestic investors as well, have relied too heavily on capital-intensive and not enough on labour-intensive technologies. In some developing countries, the import duty and tax concessions granted as incentives have the effect of making capital-intensive projects commercially more attractive than a project designed to make maximum use of the available pool of unemployed or underemployed labour. It may therefore be necessary in some developing countries to consider whether both general economic policies and specific industrial policy measures should be reorientated towards the establishment of new industrial projects or the expansion of existing plants that are more beneficial to the country as a whole.

By the beginning of the 1960s, it is estimated that between 20 and 25 per cent of the population of the developing countries was living in urban areas. In most developing countries, the rate of growth of the urban population was substantially faster in the 1950s and early 1960s than that of the population as a whole. For example, in Latin America, the population of urban areas grew at an annual rate of 4.4 per cent between 1950 and 1962, compared with an annual growth rate for the total population of about 2.8 per cent. The annual rate of growth of population in the urban areas of Latin America in this period was double the rate of growth of employment in the more modern factory sector. A faster rate of industrialization would usually help to reduce the social and political tension often created by the persistent drift of the rural population to the towns and cities of developing countries.

DISTRIBUTION OF INCOME AND WEALTH

A declared objective of many developing countries is to spread the benefits of economic development as equitably as possible among the population. This objective should therefore be taken into account in the

formulation of policies and policy measures which promote, guide and control industrialization.

One of the most powerful means of accumulating wealth and earning high incomes in industrially advanced market-economy countries has been to establish industrial enterprises and operate them successfully. In developing countries that permit the establishment of industry under a private enterprise system, ownership of industrial enterprises is a new form of accumulating wealth that can attract both capital and men with entrepreneurial spirit to invest in the industrial sector rather than in traditional forms of investment such as trade and property, where the risks and rewards are better known.

Governments of developing countries can promote a more equitable distribution of the wealth and incomes earned in the industrial sector in several ways. For example, the development of a capital market, including a stock exchange, can encourage the traditional form of family-owned business to make shares available to the public at large. Again, the Government can introduce legislation making it mandatory for industrial enterprises to share a minimum proportion of their profits with their employees.

Other possible instruments of government policy to promote a more equitable distribution of wealth in the industrial sector are the system of licensing new industrial investment and assistance at the pre-investment stage of industrial project promotion. The licensing system can be used to ensure that a small group of entrepreneurs does not, as a result of their accumulated and expanding wealth, obtain the right to establish a major share of new industrial enterprises; it can also be used to reserve certain industries for government ownership. Second, and as a natural corollary of the first measure, the Government can assist inexperienced entrepreneurs in formulating new projects and can provide the necessary financial resources on favourable terms.

Apart from these measures, the main instrument for obtaining a more equitable distribution of incomes and wealth is fiscal policy. Used carefully, fiscal policies are unlikely to deter investment in the industrial sector; in some countries, however, very high taxation aimed at securing a more equitable distribution of incomes and wealth has, temporarily at least, dampened enthusiasm for investment in the industrial sector. Since an objective of many developing countries is to promote the channelling of more financial resources into the industrial sector, particularly in the form of risk capital, taxation has sometimes been used to discourage investment in other fields—for example, property and real estate.

DECENTRALIZATION OF ECONOMIC DEVELOPMENT

In both industrially advanced and developing countries, the managers of industrial enterprises exhibit a strong preference for locating new production facilities in or near existing concentrations of urban population. Proximity to the major market outlets, an existing infrastructure and the availability of experienced management and labour are some of the more obviously attractive features.

In developing countries, particularly those at an early stage of industrialization, influencing the choice of location for new industrial projects is a potentially powerful means of influencing the economic development of various parts of the country. Many Governments fully recognize this fact and use various policy measures, such as granting licences for new industrial enterprises only in specific areas, as well as incentives, such as the establishment of industrial estates and differential tax rates to oblige or encourage the promoters of new industrial projects to locate their plants outside areas of existing industrial concentration.

The techniques and measures for planning and implementing such a policy were examined at an interregional seminar on this subject sponsored by UNIDO in August 1968.¹³ Many considerations are involved. The main purpose in raising the subject here is to show the importance of this objective of national economic policy in the formulation of certain types of industrial policy measures.

¹³ *Report of the Interregional Seminar on Industrial Location and Regional Development*; for full reference see annex 3 under "United Nations Industrial Development Organization".

MOBILIZING RESOURCES FOR THE INDUSTRIALIZATION PROGRAMME

The successful implementation of an industrialization programme requires a series of actions on the part of the Government to ensure that sufficient resources are mobilized and available for use in the industrial sector. The three types of resources required are finance, manpower and technology; government action in each of these fields is discussed in detail in a separate monograph or monographs. This chapter outlines some of the issues arising in connexion with the adoption of national economic policies, the formulation of industrial policy measures and the introduction of other forms of government action to ensure that sufficient resources are made available to permit the successful implementation of the industrialization programme.

FINANCIAL RESOURCES REQUIRED

While it is clearly important to estimate the total volume of financial resources needed to implement an industrialization programme, an analysis of the past experience of selected developing countries shows that there are no simple aggregative techniques on which such estimates can be based. The data analysed by UNIDO in preparing the first volume of the *Industrial Development Survey* suggest that, in the early 1960s, the developing countries as a whole devoted 16 per cent of GDP to investment compared with an average of 20 to 21 per cent in the industrialized countries.¹⁴

The data also suggested that, on the average, developing countries devoted almost 20 per cent of their total national investment to investment in the manufacturing industry. However, there are many variations from this average. It is more important to analyse the trend in the volume of financial resources required by the industrial sector. In developing countries, at an early stage of industrialization, a substantial and

¹⁴ See p. 152; for full reference see annex 3 under "United Nations Industrial Development Organization".

steady increase in the proportion of total national investment devoted to the industrial sector may be needed; when this situation is anticipated, there is a special need to ensure that policies and other forms of government action are formulated with this goal in mind.

Two basic policy issues must be faced in deciding on the means of achieving this goal: the proportion of financial resources to be supplied out of public funds or by private investors, and the potential contribution of external as opposed to domestic financing. Here again, it is difficult to generalize on the basis of the past experience of developing countries.

However, on the basis of a study of official economic development plans, it has been estimated that the participation of the public sector in total investment in the developing countries as a whole rose from between 25 and 35 per cent in the early 1950s to between 45 and 55 per cent in the late 1960s.¹⁵

Even less information is available on the contribution of external financing to investment in the industrial sector. However, if total investment in all sectors is considered, a recent study of 41 developing countries suggests that domestic sources supplied about 80 per cent of the financial resources required, while foreign sources supplied about 20 per cent.

When estimating the volume of financial resources that can be made available for industry from domestic sources, it is important to consider the volume of investment funds that will be made available as savings by the industrial sector itself. As industrialization advances, a steadily increasing proportion of the new capital formation required can be expected to be self-generated in this way. In the United States, estimates show that, in the 1950s and early 1960s, roughly 60 per cent of new industrial investment was self-financed in this way, with undistributed profits and depreciation of existing capital assets each contributing about half of the self-generated funds (or about 30 per cent of total new capital formation). In developing countries, the proportion of self-financed investment in the industrial sector is usually much lower, although it is already in excess of 40 per cent in certain Latin American countries.¹⁶

The policy implications of this analysis are evident enough. Domestic financing of industrial development can be facilitated by policies that

¹⁵ *Ibid.*, p. 157.

¹⁶ *The Process of Industrial Development in Latin America*; for full reference see annex 3 under "Economic Commission for Latin America".

encourage enterprises to make appropriate allowances for the depreciation of their fixed assets and measures that encourage reinvestment of a high proportion of the profits of industrial enterprises in both the private and the public sectors.

The main concern of developing countries at an early stage of industrialization is to develop appropriate channels for mobilizing capital from outside the industrial sector for use by industrial enterprises. Developing countries that need to channel a sharply increased volume of financial resources into the industrial sector face the same problem.

The policies and methods chosen to achieve this objective will depend on the relative roles given to projects established under public and private ownership. It is generally accepted that targets set for the development of industry in the public sector can be secured by direct measures taken by the Government, such as the allocation of funds and the establishment of appropriate institutional arrangements.¹⁷

To ensure an adequate supply of financial resources for industrial development in the private sector, the main need is to provide an appropriate set of financial institutions and ensure that they have adequate resources at their disposal. However, not only must a sufficient volume of finance be made available; it must also be made available in appropriate forms. The promotion of industrial development in the private sector requires an adequate supply of risk capital in the form of equity investment, long-term loans to finance the purchase of fixed assets, and short or medium-term loans to finance inventories and other working-capital requirements.

To ensure a sufficient supply of risk capital in the form of equity investments, government policies will have to create conditions in which investment in the industrial sector is more attractive than other forms of private investment such as trade, property and real estate. A group of incentive measures is often used for this purpose. At some stage in the industrialization process the volume of equity capital required is unlikely to be forthcoming without the creation of a wider market for industrial equity shares through the establishment of a stock exchange.

Commercial banks in most developing countries are willing to supply the working capital required by industrial enterprises. However, their willingness to lend a sufficient proportion of their resources to the industrial sector may need to be encouraged by the central bank; various

¹⁷ Policies and Plans of Developing Countries Regarding the Public Sector in Manufacturing Industries; for full reference see annex 3 under "United Nations Industrial Development Organization".

techniques and measures can be used. Where such measures have failed to encourage the commercial banks to meet this need in full, some developing countries have established special financial institutions which concentrate on mobilizing finance for industry in this form.

The banking system is usually unwilling to supply industrial enterprises with long-term loans and equity capital. For this reason, at least one new financial institution specializing in supplying finance for industry in this form has usually been established at a very early stage in the industrialization process. These industrial development banks, industrial development corporations, or development finance companies as they are most frequently called, often supply a major part of the fixed capital required by new industries. Many of them play a vitally important role, not only in supplying finance, but also in promoting and following up on the implementation of new industrial projects.

The extent to which monetary and credit policies have to be adapted to meet the needs of the industrial sector varies from one country to another and depends on the stage of industrialization reached. The financial institutions specializing in industrial financing are often immune from temporary changes in the structure of interest rates; but it is also important to ensure that the credit provided by the banking system as well as by these institutions is supplied on appropriate terms and conditions. Finance should be neither too expensive nor too cheap (as is sometimes the case in countries experiencing rapid inflation). Where the provision of finance acts as an incentive measure, the projects benefiting from the availability and/or terms of finance should be carefully examined.

Fiscal policy also has to be adapted to the needs of the industrialization process. The incidence of sales and other taxes may distort the structure of costs and prices, and in particular act as a disincentive to the export of manufactured goods. High rates of taxation of company profits and dividends will discourage the supply of equity capital and entrepreneurial initiative. It may also be worth considering the practice, adopted by some developing countries, of introducing specially favourable tax treatment for companies which widen the pattern of share ownership by obtaining a stock exchange quotation for their equity shares.

MANPOWER RESOURCES REQUIRED

Industrialization requires a steadily increasing supply of managerial and labour skills. The development of these skills frequently requires many years' training; the needs of the industrial sector therefore have to

be anticipated many years in advance. Some industrial enterprises can be counted upon to anticipate their own needs well in advance and take action accordingly. The Governments of most developing countries, however, do not count on this contribution; they see a need to take action themselves to remove this potential bottleneck to more rapid industrialization.

The process of industrialization creates demands for a variety of specialized skills at all levels. Ways of estimating these requirements and the methods that can be used to translate this information into practical policy are considered in Monograph 14, on industrial manpower, and in four papers presented to the International Symposium by UNIDO and the ILO.¹⁸

With regard to the types of qualified personnel needed, the following classification has been suggested:

Innovative organizers (entrepreneurs in the public and private sectors);

Managers (top and middle levels in large organizations, top man in independent small enterprises);

Engineers and technologists;

Technicians;

Foremen and supervisors;

Broadly skilled workers in both production and office work;

Specific skilled workers in both production and office work;

Unskilled workers.

Education is a first step in the generation of the manpower skills required for industrialization. To an increasing extent, as industrialization proceeds, it will be necessary to examine whether the curricula used in schools, colleges, other training institutions and universities are well adapted to producing the types of skills needed in the industrial sector. In developing countries where the social behaviour patterns of traditional forms of society are still strong, educational programmes have to do more than create a technically qualified labour force. Education can help to create a disciplined way of thinking and acting; it can also help to broaden

¹⁸ Issues and Problems in Manpower Development for Industrialization; Skill Requirements for Industrialization; The Effective Utilization of Manpower for Industrialization; and Education and Training Programmes for Industrialization; for full reference see annex 3 under "United Nations Industrial Development Organization".

people's outlook, the way they approach their work and the way they co-operate with others.

Many courses of action are open to a Government to ensure an adequate supply of skilled manpower. First and foremost, the Government can encourage individual enterprises in both public and private sectors to anticipate their own needs and provide all or part of the necessary training and manpower development themselves. Many Governments have offered incentives or subsidies to encourage enterprises to perform this function.

However, manpower is usually mobile as between one enterprise and another. When skilled manpower is in short supply—a situation common in some, if not all, grades of skill in most developing countries—an enterprise cannot be sure that, after investing in training manpower, it will be able to keep the persons whom it has trained. It is therefore logical and usually essential for the Government to supplement the training activities of industrial enterprises.

The main area of government policy, therefore, is the provision of an appropriate set of training institutions. The Government may take full responsibility for establishing such institutions and financing both capital and operating expenditures. In some developing countries, the Government has reclaimed part of the cost of operating institutions for the training of skilled labour by charging a levy (sometimes a fixed percentage of the wage bill of all industrial enterprises) for this purpose. Where management training institutions have been established, it is quite common for industrial enterprises to send students to such institutions at their own expense.

The importance of developing entrepreneurial and management skills and the length of time required to develop such skills are frequently underestimated by Governments and individual enterprises in developing countries. A major weakness in the infrastructure of manpower training facilities of many countries is the lack of facilities for developing top-level and middle-level managers. The association of international business firms with the establishment of certain new industrial enterprises in developing countries and their willingness to train indigenous personnel to manage them may have created the impression that the establishment of institutions providing this type of training can be postponed. The later stages of the industrialization process, however, may well suffer if such training is not initiated at an early stage.

The need for engineers, technologists and technicians is more widely recognized; the main problem here is to adapt the curricula of universities,

colleges and other educational facilities to the rapidly changing technology and needs of modern industry, and to ensure that a sufficient proportion of the undergraduate population is encouraged to specialize in these subjects.

The national wage and salary structure can influence the range of manpower skills which individuals develop on their own initiative. If the potential rewards in terms of salary are high enough, more students will be interested in acquiring engineering and technological skills. The salary levels set by the Government for engineers, technologists and technicians in government service and in public sector manufacturing enterprises may therefore be considered as a potential policy instrument for influencing the supply of manpower with advanced training in these skills.

A more serious problem faced by many developing countries is the brain drain—the desire of trained engineers, technologists and technicians to work in industrially advanced countries rather than in their own. Promoting an appropriate salary structure is one way of attempting to counteract this problem; but certain developing countries have adopted other potentially powerful policy measures, such as exempting persons returning with advanced skills from payment of customs duties and offering them special terms to encourage them to establish a business or consulting organization in their own country. Some Governments attempt to identify potentially useful individuals working abroad and offer them specific and suitably challenging positions at home. The importance of keeping nationals who have received advanced scientific, technological and managerial training is now widely recognized in the developing countries.

A Government can afford to be more flexible in developing training facilities for technicians, foremen and supervisors and skilled workers because the period of training is much shorter. Advance planning here may mean forecasting the supply and demand situation for two to five years ahead, compared with five to fifteen years in the case of top-level and middle-level managers, engineers, technologists and technicians.

In a great many developing countries, much has been done to develop skilled workers, foremen and supervisors and technicians. The main policy need, therefore, is to respond flexibly to anticipated changes in the demand for skills, to expand and improve existing training facilities and to improve the quality of the training provided. In this area, too, government policy on wage levels can influence the supply situation. If wage rates for particular grades and levels of skill are negotiated on a nation-wide basis, the Government may be able to exert influence on the

pattern of differentials in the wage structure. If the Government is the major employer of certain types of skilled labour, its policy may tend to set the pattern for wage levels among other employers.

TRANSFER AND DEVELOPMENT OF TECHNOLOGY

The process of assimilation of new techniques of industrial production and their adaptation to the conditions prevailing in a particular country entails far more than the introduction of new equipment and the training of staff to operate it. The country's technological capability is developed thereby, with benefits accruing not only to the industrial sector, but also to other sectors of the economy and to society as a whole. The benefits are maximized if technology is transferred in such a way that the recipient country develops a capacity to modify and improve the technology in the future.

The Government of a developing country faces two main policy issues in connexion with the transfer and development of technology for industrialization. The first is the extent to which policies and institutional arrangements are needed to ensure that the technology of modern manufacturing processes used in industrially advanced countries is adapted to the special needs and circumstances of developing countries using those processes. The second is the extent to which the Government should rely on imported technical know-how and, as a corollary, what measures the Government must take to develop and improve the nation's technological capability.

Insufficient attention has been paid to the development of new types of technology suitable for use by industrial enterprises in developing countries. Each developing country has different resource endowments; it is therefore usually worth while creating a national industrial research institute to tackle this and other problems encountered in adapting technological processes originally developed in industrially advanced countries with different resource endowments.

The vastly differing conditions prevailing in developing countries also have important implications for the policies governing the operation of industrial enterprises. For example, it is often preferable to utilize the available plant and machinery on a 24-hour-a-day and multi-shift basis. There is often scope for using additional labour to give machinery more careful maintenance and repair servicing than is indicated as necessary in manuals supplied by engineers from industrially advanced

countries. Even so, there may be a need to introduce measures permitting a faster rate of depreciation for machinery used on a multi-shift basis.

Specialized institutions can be established to promote the development of a national technology in various branches of industry. Industrial research institutes can help adapt technology to the conditions prevailing in the country; they can develop new technological processes suitable for the country; and they can develop a corps of specialists who can help to resolve problems arising in the manufacturing process and the maintenance and repair of machinery. Monograph 10 in this series, on industrial research, covers this subject in more detail.

In the industrially advanced countries, many branches of industry have formed research organizations on their own initiative and at their own expense. It is difficult to say at what stage of the development of a branch of industry this form of organization will be appropriate in a developing country. However, in those branches of industry where a Government is especially desirous of developing a national and self-supporting process of technological development, some initial financial support from the Government might be considered. This subject also is considered in Monograph 10.

Developing countries that have reached a more advanced stage of industrialization are beginning to consider what proportion of the nation's manpower and financial resources can be devoted to industrial research and product development.¹⁹ At some stage of industrialization the Government will face the issue whether it is worth continuing to import and pay for technical know-how in every branch of industry and whether the time has not come for the country to rely on its own technological capability in certain branches of industry.

The purpose here is merely to raise this issue. The policy implications are numerous. Tighter control of the purchase of foreign know-how may have to be introduced. Stronger incentives may have to be given to encourage enterprises to develop their own research and product-development capability. For developing countries, this is a policy objective that must be given increased attention as industrialization advances.

¹⁹ In *The American Challenge* Jean-Jacques Servan-Schreiber estimates that, in the mid 1960s, the United States devoted 3.6 per cent of GNP to research and product development compared with an average of 2 per cent in the European Economic Community countries. In absolute terms, the figures are \$17 billion compared with \$3 billion; on a *per capita* basis, \$94 and \$25 respectively. For full reference see annex 3 under "Other sources".

POLICIES TO PROMOTE, GUIDE AND CONTROL THE IMPLEMENTATION OF INDUSTRIALIZATION PROGRAMMES

Developing countries are increasingly aware of the need to formulate a set of policies and specific policy measures to promote, guide and control the implementation of their chosen industrialization programmes. The extent to which such policies and policy measures have influenced the rate, pattern, and quality of industrialization in developing countries has been only partially investigated so far. Nevertheless, there is enough evidence to suggest that a well-formulated and soundly conceived set of industrial policies and policy measures can help a Government to achieve the objectives which it establishes for the development of the industrial sector.

A criterion for judging the quality and effectiveness of the policies and policy measures chosen to implement the industrialization programme is consistency: in other words, conflicts between different policy measures must be avoided and the various types of policy instruments used must be properly related. This criterion is most likely to be satisfied if clear objectives have been established.

The establishment of clearly defined objectives is important for the achievement of adequate continuity in the policies pursued. In making an industrial investment, the organizer of an industrial project has to take a long-term view about sales prospects and the conditions and circumstances under which the enterprise will operate. Frequent changes in government policy will reduce confidence in the stability and continuity of these conditions and circumstances. This consideration is of particular importance for foreign investors.

It has been noted that the industrial policy of many developing countries is becoming increasingly selective as regards the type of industrial enterprise which the Government is prepared to see established. Developing countries at an early stage of industrialization have to ensure that scarce resources invested in industrial development are used to

maximum advantage; other developing countries, which have reached a more advanced stage of industrialization, have recognized the need to introduce a degree of selectivity into the policy measures used to promote the establishment of new projects or the expansion of existing projects.

This chapter, then, shows how a complete set of industrial policies and industrial policy measures can be used by the Government of a developing country to achieve the objectives of an industrialization programme. Many of these objectives have been considered in earlier chapters of this monograph; the main purpose here is to see how much weight different developing countries, facing different circumstances and conditions, attach to these objectives, and how these objectives influence the subsequent formulation of industrial policies. Special emphasis will be given to policies and policy measures which aim, first, at promoting industrialization and, second, at guiding and controlling it.

OBJECTIVES OF AN INDUSTRIALIZATION PROGRAMME AND POLICY FORMULATION

There are over 100 developing countries at different stages of economic development and with different social, political and cultural backgrounds. The stage of industrialization reached varies from country to country; so, too, do the prospects for further industrialization. It is therefore difficult to define a list of objectives for the industrialization programme which all developing countries might consider. Nevertheless, it is often helpful to state all objectives explicitly in writing, and therefore a preliminary and incomplete list of possible major objectives of industrialization has been drawn up, as follows:²⁰

To raise living standards;

To accelerate the rate of development of the industrial sector and broaden the range of manufactured goods produced;

To develop greater economic independence;

To ensure that new investment in each branch of industry makes appropriate use of the economies of large-scale production and modern technology;

²⁰ Some of these objectives are often implicit in a Government's thinking; some may be identified in the national development plan or other policy statements.

- To make maximum use of the opportunities for regional co-operation in the field of industrial development;
- To direct new investment into those branches of industry or projects that have government priority;
- To develop and maintain the desired balance between public and private ownership of industrial projects;
- To achieve certain balance-of-payments objectives; for example, by developing an appropriate mix of import substitution and export-oriented industrial production;
- To promote the desired geographical distribution of new industrial activity;
- To promote a more equitable distribution of income and wealth, and a wider spread of ownership of industrial projects;
- To ensure that a sufficient volume of finance is available on appropriate terms and conditions for the industrial sector;
- To ensure the development of a growing and adequate body of experienced entrepreneurs and trained industrial managers;
- To ensure the development of an adequate supply of engineers, technologists and technicians;
- To promote the development of national technology and research, suited to the conditions and resource endowments of the country.

Unfortunately, there is no simple and automatic means whereby the industrial policies and policy measures adopted by a Government can be related to the achievement of these objectives. Each measure or instrument of policy is usually aimed at the achievement of at least two or three different objectives. Furthermore, it is often difficult to design policy measures that do not have undesirable side-effects. For example, when tax and import duty concessions are extensively used as incentives, they can significantly reduce the tax base and hence budget revenues.

MEASURES TO PROMOTE INDUSTRIALIZATION

The industrialization process consists of the implementation of a series of individual projects. When policies and policy measures to promote the establishment of these projects are being considered, a distinction must be made between projects to be implemented under government ownership and control and those to be implemented under the ownership and control of private individuals or enterprises.

It is generally accepted that the promotion of industrial projects under public ownership and control can be secured by direct action initiated by the Government and implemented either directly or through various types of government agencies. The main need is to design appropriate machinery for identifying suitable projects and for formulating and implementing them. The efficiency with which these functions are performed will depend on the number, quality and calibre of the individuals selected to perform them. The Government will therefore have to pay particular attention to the levels of remuneration and other working conditions established for the persons employed to fulfil these functions on behalf of the State. The innovative and entrepreneurial skills of this team can often be usefully supplemented by a policy which uses outside consultants to make selected feasibility studies, and the association of foreign enterprises in the implementation of certain projects.

At the implementation stage, the Government will have to ensure that adequate financing is provided on appropriate terms. The successful operation of projects will depend in part on government policy with respect to prices and profits.²¹ To some extent the conditions under which public sector manufacturing enterprises operate will also be determined by some of the country's basic industrial policies; in particular, the policy of protection against foreign competition (i.e., exchange rate policy, tariffs and/or import controls) may have an important impact on the enterprises' pricing policies.

The promotion of industrial projects under private ownership and control is influenced by a number of basic industrial policies. These include the exchange rate (particularly if special exchange rates are used for certain import, export or capital transactions) and the tariff structure (which affects the price at which the final product can be sold, the cost of imported plant and machinery, and the cost of the continuing supply of imported inputs). If import controls or quotas are applied, these will have a similar and perhaps more serious influence on an enterprise's operation. The promoter of a project will also consider the Government's basic policy on the taxation of profits and dividends. If a foreign investor is involved, the terms and conditions governing his contribution of finance and technical know-how will also be important.

If these basic industrial policies are seen to be established as continuing policies, the wide range of measures that a Government can

²¹ These matters were considered at an Interregional Seminar organized by UNIDO on Financial Aspects of Manufacturing Enterprises in the Public Sector held in Rome, 1-12 December 1969.

introduce to promote the establishment or expansion of industrial enterprises under private ownership and control can be considered as incentive measures. Such measures can take the following forms:

- Assistance at the pre-investment stage;
- Increased protection against foreign competition;
- Import duty concessions;
- Tax incentives;
- Assistance with financing;
- Assistance with land, factory buildings etc.;
- Assistance with the development of labour skills;
- Measures to facilitate foreign investment;
- Government purchases of locally manufactured products.

The complete group of incentive measures that can be used to promote the development of industrial projects under private ownership and control were considered at an interregional seminar on this subject organized by UNIDO in March 1969 (see annex 2).

One of the most powerful policy measures to promote industrial development, particularly in developing countries at an early stage of industrialization, is the creation of appropriate machinery for the identification, formulation and promotion of specific industrial projects. In some developing countries, a centre for industrial development has been established by the Government, with UNIDO assistance, primarily for the purpose of identifying, on a continuing basis, opportunities for the creation of new industrial projects. In other developing countries, an investment promotion centre has been established, also with UNIDO assistance; its main task is to interest local and foreign investors in initiating projects whose feasibility has been determined by at least a preliminary study.

Experience has shown that a preliminary study—that is, a study which demonstrates that a local market exists for a product on the basis of existing and projected sources of demand and supply, which examines the dependence of the anticipated selling price on tariffs and other forms of protection, and which determines the availability and price of suitable raw materials, power and other utilities—is often sufficient to attract the interest of an investor. Thereafter, a local investor and/or his foreign partner will conduct their own detailed feasibility study and proceed to detailed engineering design studies for the plant itself.

In many developing countries, the Government goes further than this

and provides assistance at the pre-investment stage by making a detailed feasibility study or financing studies made by other parties. Some developing countries have established a separate fund to finance detailed feasibility studies; in some countries, such funds have been supported by bilateral foreign aid and contributions from a regional development bank.

In many developing countries, therefore, there is need to review the scope and forms of assistance which the Government provides at the pre-investment stage, as well as the administrative machinery or organizations used to implement this policy. In many countries, a strengthening of machinery and the provision of additional financial resources for this purpose might produce beneficial results. If an analysis were made of the cost and effectiveness of the various types of government policy measures used to promote industrialization, assistance at the pre-investment stage would probably deserve a much higher priority than it is given in many developing countries.

MEASURES TO GUIDE AND CONTROL THE PROCESS OF INDUSTRIALIZATION

An important objective identified in earlier chapters is to guide new investments in the industrial sector into priority projects. A second objective, which has also been considered earlier, is the need to provide a stimulus for projects already established to develop high levels of efficient operation.

A wide range of policy measures can be used to achieve these objectives. The country's basic policy of protection against foreign competition can be important in creating conditions which guide new industrial investment into priority projects. However, the most commonly used policy instrument for this purpose is a system of licensing new industrial investment. Such systems give the Government an opportunity to exercise some control over the number of enterprises established in each branch of industry and the size, nature and quality of each project established. In this way, fragmentation of production into a large number of small-scale operating units can often be avoided; capacity can be kept in relation with the expected growth of demand; and attention can be paid to the choice of appropriate technology.

The successful implementation of a licensing system requires the development of appropriate machinery and the use of clear-cut criteria on which licensing decisions can be based. It is through this policy instrument that techniques of project evaluation, which consider the

contribution and cost of the project in national terms, can be implemented. However, licensing systems are useful only if they are effectively enforced. This requires strong central control over the process of industrial development. Sometimes this is in practice exercised through the control of the foreign exchange needed to purchase machinery and equipment; the issue of an import licence is made conditional on the project being licensed as a priority industrial project.

A more flexible way of promoting the development of priority industrial projects used by some developing countries is to offer tax incentives on a selective basis. In some countries, more generous tax incentives have been offered to promote the establishment of a previously identified list of projects; in other countries, the generosity of the incentive benefits has been made dependent on the project's contribution to the achievement of certain national policy objectives—for example, benefits have depended on the "value added" component contributed by the project, or more generous incentives have been offered to projects located in the less developed regions of a country.

Various policy measures can be used to control the performance of existing industrial enterprises. In industrially advanced countries, exposure to foreign competition usually acts as a stimulus to greater efficiency and higher quality standards in manufacturing enterprises. In many developing countries, this stimulus is temporarily lacking because import controls have been introduced for balance-of-payments reasons. In other developing countries, tariffs have been set at a high level, either for balance-of-payments reasons or to increase revenue. There is therefore a need to consider the extent to which greater efficiency in existing enterprises could be promoted by lowering tariff barriers and eliminating import controls.

The achievement of a high level of efficiency in manufacturing production often depends on the development of long production runs. In many branches of industry, therefore, some form of standardization of product design is needed if maximum benefit is to be derived from economies of large-scale production. The Government's policy on standardization can therefore contribute to improved performance in many industrial enterprises.

In some developing countries that have reached a more advanced stage of industrial development, inadequate control of the industrialization process has resulted in the evolution of an over-fragmented structure of production in many branches of industry. In such cases, improved

performance will depend on a restructuring of the industry and a reallocation of production among the various manufacturing units. In some industrially advanced countries, urgent attention is being paid to the need to restructure certain branches of industry. Where such restructuring has not developed naturally, through the operation of market forces and out of the self-interest of the parties concerned, the Government has sometimes taken action. It may be necessary in some developing countries to establish appropriate government machinery—for example, in the form of an industrial reorganization corporation—to work closely with different branches of industry to promote the desired restructuring. In some cases, it may be appropriate for the Government to provide funds through this organization to support the development of more efficient production facilities in the expanded enterprise formed as a result of such mergers.

**THE INTERNATIONAL SYMPOSIUM
ON INDUSTRIAL DEVELOPMENT:
ISSUES, DISCUSSION AND RECOMMENDATIONS**

THE ISSUES²²

Level and rate of industrialization in developing countries

While there has been significant progress in recent years in the rate of growth of industrial production in the developing countries, the over-all picture is far from satisfactory. Taken as a whole, the total volume of industrial production in those countries still represents a small proportion of total world industrial production and, as regards individual countries, accounts for a much smaller share of the national product than in the industrialized countries. The rate of industrialization should therefore be speeded up in order to promote an accelerated and, to a large extent, self-sustaining process.

Quality of industrialization

Some industrial undertakings have been established which rely so heavily upon imported raw materials and equipment that the net value added by their operation is far from satisfactory. The establishment of such industries has often contributed to a deterioration rather than an improvement in the balance of payments because of their excessive dependence upon imported raw materials and equipment. Furthermore, single plants have been established in isolation, with feeble linkage with other supplying or consumer enterprises in the economy.

The performance of the industrial sector, as reflected in levels of productivity and costs, is generally inadequate. In some cases, this applies to countries as a whole; in others, it affects particular branches of industry. Even where the rate of growth is comparatively high it must be admitted

²² UNIDO, Issues for Discussion: General Policies—Economic and Social Aspects, 1967 (ID/CONF. 1/A. 14) (mimeo.).

that mere quantitative growth of industry may conceal inefficient, high-cost operations.

In some cases, high costs of production are due to excess capacity based on incorrect anticipations of the size of the market; in others, such excess capacity may be a relatively transitory phenomenon which may be considered a reasonable price to pay for long-term industrial growth. Inefficiency may be due to error in the selection of equipment and the choice of technology; again, it may be attributable to inefficient management, whether resident or non-resident; still again, initial difficulties inevitably associated with the rapid expansion of the labour force and of output have led to low productivity owing to inadequacy of training, high turnover of the labour force, or shortcomings in management.

Industrialization and the development of other sectors of the economy

There is an increasing awareness in developing countries that the growth of the industrial sector and of other major sectors of the economy are mutually dependent. Industrialization and the development of agriculture are in no way alternative goals of economic policies, but complementary and mutually supporting processes. For example, the industrial sector is expected to satisfy the demand for increased inputs in the form of synthetic fertilizers, pesticides, farm machinery and equipment etc. required by the expansion of agricultural output.

Development of natural resources

The natural resources of many developing countries are now much better known than they were some twenty years ago. The vast volume of primary commodities, which are now being exported by the developing countries in unprocessed or slightly processed form, offer important possibilities for a higher degree of processing, which would add materially to export earnings as well as meeting growing demands of the local market. Among the commodities which come readily to mind are ferrous and non-ferrous metals, petroleum, lumber and forestry products, beverage crops, natural fibres and hides and skins.

Sectoral development within industry

The pattern of industry in a significant number of developing countries has been found to have serious shortcomings. Attention has been focused on the production of light consumer goods and, to some extent, more recently, on durable consumer goods, while the production of capital equipment, particularly of the heavier type, has lagged even when the degree of technological sophistication required has not been excessive.

The balance of payments

A significant part of industrial growth that has occurred thus far in the developing countries has consisted of production for the local market of commodities previously imported. In many developing countries, there is evidence that import substitution is slackening, at least for the present; consequently, intensified measures for the promotion of exports of manufactures are an important condition for further industrial advance.

Import substitution and export-oriented industrialization

In many branches of industry, the economies-of-scale factor, which characterizes modern industry, requires the establishment of industries of a minimum economic scale, however, this may be beyond the capacity of the domestic markets, which are generally limited. In the longer run, the problem of markets may be expected to be resolved through rises in income and an improvement in the pattern of income distribution. In the shorter run, a larger demand for manufactured goods might be provided, first, through the establishment of regionally integrated markets and, second, through the development of exports to international markets.

Employment objectives

The elimination of structural unemployment is a major objective of economic development. It should be recognized, however, that modern industry has a generally low absorptive capacity for labour. Governments are thus frequently faced in their industrialization policies with the difficult problem of reconciling the objectives of maximization of product and maximization of employment, which are not always compatible. While in some cases preference may be given to labour-intensive industries and an effort should be made to stimulate research on the adaptation of technology to the factor endowment of the countries concerned, these are not generally applicable solutions. In the longer run, industrialization stimulates the growth of employment through the cumulative process of generation and diffusion of incomes throughout the economy.

Distribution of income and wealth

If industrial policy is to be effective, it cannot be separated from policies relating to the internal distribution of personal income, employment policies, policies relating to savings and investment and measures to raise productivity not only in the industrial sector but in agriculture and the service industries as well.

Financial resources required

To speed up the rate of industrialization, it is above all necessary to raise the input of capital resources in industry. This involves the promotion and strengthening of the inflow of capital from abroad, in the form of international assistance; of grants, loans and credits, both public and private; and of participation of foreign capital in the industry of developing countries under appropriate and mutually acceptable conditions.

Manpower resources required

The importance of developing training facilities and programmes to provide the needed corps of skilled workers and managerial personnel is obvious. Much has been accomplished in the field of education, but training programmes geared to the specific needs of industry are seriously lagging. To meet certain types of manpower needs, training facilities exist in the advanced countries which could be put at the disposal of the developing countries. Limited progress has been made in this direction through in-plant training programmes, but the need far exceeds the accomplishments, and a policy of ensuring optimum reliance on external as against local training facilities should be evolved. The practical implications in this regard will demand intensified international co-operation.

Transfer and development of technology

Consideration should be given to the methods by which the transfer of technology to the developing countries can be accomplished as efficiently as possible and with minimal cost. It appears desirable to explore problems which may arise if the normal market mechanism fails to provide sufficient stimulus to the transfer of such know-how and to consider practical ways and means of overcoming this obstacle if it exists.

A related problem for consideration is that of the means by which industrial technology may best be adapted to the particular needs of the developing countries, whether through research in the developing countries or in the advanced countries.

Objectives and implementation of the industrialization programme

The developing countries' awareness of the importance of policies conducive to industrial efficiency is greater than before, as is their appreciation of the importance of selectivity in the development of various

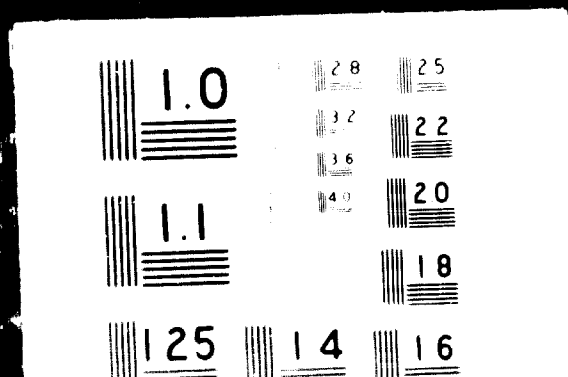


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branches of industry in place of the previous tendency towards general self-sufficiency and consequent high-cost production. There is increasing understanding of the necessity for action on the part of the developing countries to widen markets through regional or subregional integration.

The achievement of the objectives of accelerated industrialization involves a set of policies at both the national and international levels. Industrialization does not occur in a vacuum. The economic, social, administrative and political policies of the developing countries, even though not specifically concerned with the industrial sector as such, frequently play an important part in determining the rate of industrial development, its structure, the location of industry within a country and industrial efficiency.

Industrialization must be seen as a many-sided process in which the integration of general policies with specific measures within the industrial sector is indispensable.

During the past two decades, many developing countries have issued declarations of policy designed to improve the climate for both domestic and foreign investment and have reinforced these declarations with specific measures of tax abatement, accelerated depreciation and other forms of subsidy. The developing countries have evinced less sensitivity in accepting external capital and managerial know-how under clearly defined conditions.

THE DISCUSSION²³

Level and rate of industrialization in developing countries

It was agreed that the level of industrial development thus far achieved in developing countries was far from satisfactory. The volume of manufacturing production in the developing countries, where the bulk of the world population was concentrated, still represented less than one twentieth of total production of manufactures. Those stark facts had remained during the earlier part of the first United Nations Development Decade: while the average *per capita* value of manufacturing production in the developed countries had approached \$600 per annum, the corresponding value for developing countries was some \$20 (1958 dollar level).

With respect to the rate of industrial growth, the over-all picture was also far from satisfactory. The 7 per cent average annual rate of industrial growth in the developing countries recently recorded meant relatively little in absolute terms because of the narrow base to which it

²³ From *Report of the Interregional Symposium on Industrial Development, Athens 1967* (ID/11) (United Nations publication, Sales No.: 69.II.B.7).

applied. Industrial progress made in the developing countries as a whole had been insufficient to permit them to reach the General Assembly's suggested target of a minimum annual increase of 5 per cent in their aggregate national income. The need for an accelerated rate of development of the industrial sector was therefore emphasized.

On the other hand, in some countries substantial progress had been made in the industrial sector. A detailed examination of those cases would be especially valuable for developing countries; it would be equally useful to consider the mistakes and waste that had occurred in this sector in some other countries.

There was a common understanding at the Symposium for the aspirations of developing countries for an accelerated rate of industrialization. Rapid industrialization was seen as one of the more powerful means of reducing the dangerous income gap between rich and poor countries.

Quality of industrialization

At their current stage of development, import substitution still represented a major element of industrial policy for many developing countries. A major problem in that area, requiring continuing review, was to avoid high-cost domestic production that might be favoured by a policy of indiscriminating protection. Inefficient domestic production under the shelter of such protection did not always serve the interest of an industrialization policy aimed at long-term, self-sustaining growth.

More efficient employment of resources now existing in developing countries was discussed as a means of improving the productivity of industry. It was suggested that productivity units consisting of experts in the various fields be established in developing countries to look into problems of low productivity and to suggest solutions or measures for improvement. In this connexion it was felt that problems relating to the development of skills and technical know-how were of paramount importance; more experts should be made available from developed countries for this purpose.

Development of other sectors of the economy

In connexion with the relation of industrial growth to over-all economic development in developing countries, the complementarity was noted between the development of industry and other productive

sectors, particularly agriculture. This generally involved a more rapid advance by industry than by other sectors, following the general pattern of economic growth.

Accelerated industrialization and the development of modern agriculture were viewed as mutually supporting processes. A vigorous modernization of agriculture presupposed the existence of a strong industrial sector capable of delivering the required industrial inputs, including fertilizers, pesticides and agricultural machinery; conversely, productive agriculture was a necessary complement of a growing industrial sector. Agriculture should be industrialized in order to achieve a high level of productivity, taking into account the interdependence of the two sectors; this would require a far-reaching development of agro-industrial economic techniques.

The establishment of an adequate infrastructure was regarded as indispensable for industrial and over-all development. An efficient transport system was required to improve distribution channels to local markets, and it was most needed in the least developed of the developing regions. The organization of distribution channels was one of the conditions for industrial development. Although investment required for the formation of distribution channels often exceeded that of the manufacturing process itself, the distribution channels offered extensive employment opportunities.

It was equally necessary to provide abundant and cheap supplies of energy. The potentialities of nuclear energy were noted in this context.

Development of natural resources

The relation between the natural resources of a developing country and its industrialization was considered. The view was expressed that some developing countries might have a wide range of natural resources not yet exploited. In such circumstances, the development of an industrial sector would call for a parallel development of the primary production sector.

It was recognized that domestic processing of primary products was a beneficial form of industrial development. Efforts should be continued, where appropriate, to increase the value added by progressively higher degrees of processing. However, the limits to this form of industrialization should be appreciated; total dependence on exports of primary products, even when subjected to substantial processing by local industry,

might result in an unbalanced industrial structure, which would be detrimental to the over-all development of the economy.

Sectoral development within industry

In connexion with the pattern of sectoral development within industry, it was noted that there were few instances where the development of industry had proceeded as an organically integrated process. In particular, low *per capita* income levels, combined in some cases with small populations, had made it impossible to take full advantage of economies of scale. A more desirable pattern of industry in this case might be achieved either through an effort to find new markets or through the application of more appropriate technologies.

The view was expressed that an appropriate pattern must allow for the establishment of some sectors which, while not appearing efficient in terms of private cost-benefit considerations, were nevertheless desirable in terms of social profitability.

Note was taken of the estimate that in the last decade the output of heavy industries in developing countries as a whole had expanded at an annual average rate of over 9 per cent, while growth in light industries had been slightly more than 5 per cent.

Various opinions emerged as to the stage of industrialization at which intermediate and capital goods industries should be developed. It was generally agreed that policy decisions should be based on a clearly defined strategy for a country's economic and industrial development.

Balance of payments

The crucial link between industrialization and foreign trade in developing countries called for particular examination. The substitution for imported products of the products of domestic industry was a well-established means of building up a local industry while at the same time providing some relief from the pressures on the balance of payments. Some developing countries had by now apparently reached the limits of the opportunities of import substitution; for others, import substitution still represented a major element of industrial policy; some of the small and least developed countries had so far been unable to benefit therefrom in any material degree.

Import-substitution and export-oriented industrialization

Among the possible solutions to problems of industrialization of the developing countries, a policy of stimulating exports of manufactured goods deserved special emphasis. Such a policy should not await the exhaustion of the possibilities for import substitution. A vigorous effort at facilitating the expansion of exports of manufactures could do much to promote the industrial development of developing countries, presently hampered by small markets and denied the benefits of the economies of large-scale production. Considerable indirect as well as direct gains would result from a shift from an inward-looking to an outward-looking pattern of industrial development.

As regards economies of large-scale production and the problem of limited markets in developing countries, the discussion focused on policies of self-sufficiency, expansion of markets through regional integration or co-operation and increasing exports of manufactured products to developed markets, including further processing of raw materials at present exported.

While it was recognized that no uniform policy of industrial development could be adopted in developing countries, particularly in small and medium-sized countries, the opinion was expressed that self-sufficiency should not be pursued as the main basis for industrialization. Instead, an appropriate combination of import substitution and exports was desirable.

Emphasis was placed on the need for a system of equitable trading relations between developing and developed countries to promote the rapid expansion of exports of manufactures from developing countries. It was suggested that discriminatory tariffs on the processed export products of developing countries was an obstacle to the industrial development of these countries. Considerable support was voiced for a preferential system of tariffs to be applied to exports of manufactures from developing to developed countries. While it was felt that support for a new and more equitable system of trading relations should be expressed at all international and regional forums, the responsibilities of UNCTAD and GATT for action in that area were fully appreciated. It could not be ignored that the lowering of trade barriers to the manufactures of developing countries might create some dislocation in the industry of certain developed countries.

Employment objectives

With regard to structural unemployment, it was concluded that modern industry offered only a limited opportunity for employment in proportion to the amount of capital invested. In the longer run, however, modern industry contributed to the solution of employment problems to the extent that it promoted rapid economic growth.

When considering the role of industry in absorbing part of the additional surplus labour emerging from the agricultural sector, planners could not ignore the social trauma that might result from over-rapid and uncontrolled urbanization. Considerations of short-run welfare should be balanced against long-term goals of rapid advances in over-all standards of living.

Distribution of income wealth

It was agreed that many difficulties must be overcome in achieving a greater mobilization of domestic savings for use in industry. Increasingly enlightened attitudes regarding a more equitable distribution of incomes within developing countries could initially, and on occasion, militate against an increased level of domestic savings. It was noted that the mobilization of domestic savings for industry was sometimes hampered by a lack of experience on the part of savers in developing countries in investing in the industrial sector.

Substantial resources should be made available from activity in the primary products sectors of developing countries. Efforts might be made to stimulate the channelling of such resources into industrial investment rather than allow their dissipation in high luxury consumption and transfers of capital abroad. It was also suggested that, following recent successful land reforms whereby the number of landholders had substantially increased, there had been an opportunity to encourage the investment of compensatory payments, *inter alia*, in the industrial sector.

Financial resources required

The promotion and strengthening of capital formation, both domestic and foreign, was considered to be of paramount importance. The opinion was expressed, however, that the most important factors in

the process of industrial development were skill, technical know-how and entrepreneurship.

Discussion focused on measures for promoting higher rates of capital formation, private and public, and conditions for encouraging the flow of capital, particularly foreign capital, into the industrial sector. The role of the Government in increasing domestic savings and the need for an efficient revenue service were also emphasized. The view was expressed that savings should not necessarily be sought through a large reduction in local consumption. The necessary capital could also be obtained through an increase in foreign loans and grants.

Successful industrialization in developing countries would necessarily depend, first and foremost, on increased self-help endeavours through the marshalling of domestic savings and their channelling, appropriately and effectively, into the industrial sector. Many difficulties, however, lay in the way of such endeavours; among them, lack of experience on the part of savers in developing countries in investing in the industrial sector. The establishment and efficient operation of industrial banks and capital markets was seen as one way of overcoming this difficulty.

In connexion with the role of the private and public sectors, emphasis was laid, in some cases, on the responsibility of private enterprise for industrial development, as distinct from the provision of infrastructure; in other cases, greater emphasis was laid on the responsibility of the public sector.

The role of the public sector in industrial planning had varied substantially among developing countries. For instance, some countries had considered that the public sector should be a strong and permanent element of the industrial structure. Elsewhere, the public sector had initiated industrial activity to be progressively supplanted by private initiative. It was suggested that a larger role might be desirable for the private sector on grounds that it might provide an incentive for the inflow of private capital.

It was generally agreed that private capital played an important role in facilitating the more rapid industrialization of developing countries. It was urged, however, that the inflow of foreign private capital should be unaffected by political and ideological considerations, and the hope was expressed that the suppliers of such investments would be fully aware of and sympathetic to the specific conditions and requirements of individual developing countries. It was recognized that developing countries had the right to determine the sectors of their economy in which foreign private capital would be more welcome.

Manpower resources required

It was considered essential to use all ways and means of rapidly raising the level and efficiency of industrial labour. Because of the magnitude of the training problem, those industrial sectors where lack of skills was most detrimental to the economy should be identified and remedial action begun there. Training institutions and appropriate wage structures were essential.

To facilitate the growth of a skilled industrial labour force in developing countries, the view was expressed that it would be appropriate to concentrate much of the over-all foreign aid on the extension of training and teaching facilities. Attention was given in this connexion to the long-established and broadly based programmes of the ILO.

The need for a systematic advance assessment of skill requirements was recognized as a basis for the planning of industrial training and education. Imbalance in the availability of skilled manpower (for example, over-supply of certain types of university graduates accompanied by acute shortages of other high-level skills) was cited as evidence of the need for such planning. Goals and priorities for training and education must be highly flexible. Many industrial skill requirements changed often and quickly; they could be forecast and planned only in general terms.

It was noted that training systems in most developing countries suffered from fragmentation and lack of co-ordination. As a result, comprehensive plans for skill formation were difficult to formulate and nearly impossible to carry out. Consideration was therefore given to the suggestion for the establishment of an industrial training organization in each industrializing country.

It was recognized that, for a wide range of skills, training by industry itself had great advantages over training in the school system. For these skills, training in industry had two main advantages: the training was for skills for which there was a clear and specific need, and it corresponded closely to the technology and working practices actually prevailing in industry.

The need was recognized for foreign industrial enterprises to appoint local personnel to management posts, including high level posts, and to make this possible by providing the necessary training facilities for nationals of the country in which the enterprise was operating.

It was agreed that there was growing realization in many developing countries that the proper utilization of skills was at least as important

as the creation of new skills. Investment in training and in training facilities might be wasted because trained manpower was either misdirected or used inefficiently.

Reference was made to the problems of the brain drain. The developing countries were losing to the industrialized countries highly trained scientists, engineers and technicians. One approach to the problem was to maintain a national register of scientists and technicians living at home and abroad; the personnel from abroad might be induced to return home by the offer of suitable positions.

Transfer of technology

It was suggested that the lag in industrialization in developing countries was due as much to lack of technical know-how as to lack of capital.

The rapid industrialization of developing countries required the vigorous employment of more appropriate technologies of production, through an enhanced international transfer of technology from developed countries. Such need for improved technical know-how excluded an isolationist approach to industrialization and called for close collaboration with the developed countries. It was imperative that the experience acquired through the scientific and technological revolution which had occurred in the more advanced regions of the world should be transmitted to all countries.

It was also suggested that a more efficient transfer of technology might be achieved through the establishment of links between particular developed and developing countries with similar technological problems. The technology chosen should be appropriate to the resources available in the developing country. Developed countries, when called upon, should assist developing countries in the selection of the type of technologies that would ensure the viability of projects in small countries with limited markets.

It was pointed out that developing countries might examine the adequacy of their systems of incentives designed to increase the inflow of technology and technicians. Positive measures might be taken to accelerate the transfer of technical know-how from foreign to local personnel. The contribution of developed countries in this area should involve professional organizations as well as private capital. There were

also opportunities for increased assistance from intergovernmental and non-governmental organizations.

Foreign private capital was considered a particularly important conveyer of technology for the development of industry in developing countries and thus an instrument for reducing the technological gap between different regions of the world. The joint venture device had proved particularly useful, given an atmosphere of mutual trust and goodwill. This form of international co-operation was well suited to a combined inflow of financial resources and scarce technical and administrative talent. Special attention should be given to the possibility of a progressive transfer of foreign participating capital to domestic interests.

The role of patents in the transfer of technology was stressed. Since the existence of patents stimulated invention and subsequent investment in their application, there was a need for widespread modern patent legislation in both developing and developed countries. The burden of royalty payments might be set against the benefits that ultimately accrued from the exploitation of new technologies.

Policies to promote, guide and control implementation of the industrialization programme

Measures to protect industry against foreign competition were considered an important element of a policy to promote industrialization. However, it was felt that high tariff levels or complete protection in the form of import controls left no incentive for industry to achieve a level of productive efficiency which was competitive by international standards. Reliance on tariff protection was favoured because it offered more flexibility, and it was recognized that the level at which tariffs were set had a direct and long-term influence on the extent to which both existing and new industrial enterprises could benefit from economies of scale and other factors affecting the efficiency of operations.

Tax incentives were seen as only one of the measures available for promoting investment in the industrial sector. It was agreed that such measures should always be adapted to changing conditions and the level of industrial development. Concern was expressed that developing countries might outbid one another in the incentives they offered.

With regard to the form of incentives, in some circumstances cash grants might be a preferable alternative: their precise cost was known; they were more likely to be subject to periodic review and scrutiny, and

the benefit was equitable in respect to all concerned, whereas tax concessions could be discriminatory.

The climate and policy measures needed to attract foreign investment were discussed. Two opinions emerged. On the one hand, it was felt that existing policy measures were sufficient, that there was need for a more equitable distribution of profits between foreign and domestic investors and that an imbalance existed in favour of the developed countries. On the other hand, the view was expressed that further measures could be taken to improve the climate for foreign private investment.

It was noted that many developing countries had indicated their intention to provide a wide range of incentives to encourage the inflow of private foreign capital, including attractive financial returns and an environment of security and stability. Note was taken of the action of a group of developing countries to provide a collective guarantee of safety to capital flowing into their area. It was emphasized that whenever over-all economic policy in a developing country required the nationalization of foreign enterprises, adequate compensation should be ensured.

RECOMMENDATIONS APPROVED²⁴

Developing countries should base their industrial development policy on long-range plans and programmes which would take the following into consideration:

The specific conditions existing in each country—natural, material and human potential;

The new vistas opened up by modern science and technology;

The possibilities offered by the domestic and international markets;

The scope for mobilization of domestic resources and the flow of foreign capital;

The need to diversify industry;

The advantages to be derived from regional co-operation.

Developing countries should, moreover:

Aim to build up industries whose products would be internationally competitive;

²⁴ From *Report of the Interregional Symposium on Industrial Development, Athens 1967* (ID/11) (United Nations publication, Sales No.: 69.II.B.7).

While encouraging labour-intensive industries, also work towards establishing industries that are increasingly sophisticated and automated in order to attain a higher level of industrial development;

Strive to increase trade among themselves.

Developed countries should:

Assist developing countries in research and development in order to adapt types of technology to the scales and types of production which would be economically feasible;

Assist developing countries to produce the capital goods or equipment needed for industrial projects;

Give manufactures and semi-manufactures from the developing countries reasonable access to their markets and thus reduce the unfavourable impact of tariff and non-tariff barriers.

Co-operation of international organizations with the developing countries was deemed most useful and necessary to the process of industrialization of the developing countries. UNIDO should therefore:

Be developed to become an effective instrument for providing the necessary support for the formulation and implementation of long-term industrial plans and programmes in the developing countries;

Assist the developing countries in the formulation and implementation of industrial projects and in securing a systematic and continuing transfer of new technology, and extend technical consultative services in co-operation with the appropriate international bodies;

In co-operation with regional commissions and other appropriate international agencies, provide facilities for the collection and dissemination of analytical material and other industrial information; within that framework, systematic and continuous assistance necessary for adequate analysis of economic possibilities and effectiveness of industrial projects and plans, programmes and policies would be more adequately rendered;

In co-operation with regional commissions and UNCTAD, render assistance in exploring industrial investment opportunities on a regional basis;

Investigate, in co-operation with the United Nations Department of Economic and Social Affairs and the regional economic commissions, the question of fiscal incentives and similar measures for industrial production with a view to formulating a pattern of incentives appropriate for general application by developing countries;

In co-operation with FAO, study the various aspects of complementarity of agriculture and industry, approaching the problem from the agricultural input side as well as from the output side, including

aspects of distribution (marketing) of processed agricultural products and infrastructural requirements of industrial products for agricultural development ;

Formulate prototype agreements which might be required by the requesting countries in connexion with bilateral, multilateral, and joint-venture negotiations; such formulated agreements should be accompanied by extensive notes on definitions, terms and conditions as well as alternative possibilities. Senior interregional advisers should be made available by UNIDO on short notice to assist requesting developing countries in the evaluation of their joint-venture projects.

UNITED NATIONS ACTION IN THE AREA OF INDUSTRIAL POLICIES

In the two years that have elapsed since the International Symposium, the aim of UNIDO's activities in the field of industrial policies has been to develop the experience and knowledge required to improve the efficiency and quality of technical assistance provided to developing countries.

TYPE AND FORM OF TECHNICAL ASSISTANCE ASSIGNMENT

Some examples of technical assistance provided to developing countries in the field of industrial policies are given in annex 1. Broadly speaking, they have one or more of the following aims:

To assist in the formulation of a long-term industrialization policy;

To consider the adequacy of the existing package of policies and industrial policy measures employed to achieve the objectives and targets established for the industrialization programme;

To assist in the design of specific industrial policy measures;

To assist with a review of the existing administrative machinery, institutions and agencies used to implement this set of policies and industrial policy measures;

To examine the policy problems faced in specific branches of industry;

To review the policies and measures needed to implement regional co-operation in the field of industrial development.

To implement some of these types of technical assistance assignment, the traditional form of United Nations technical assistance— the provision of an expert for a short-term or medium-term assignment—can be used. In many cases, however, the importance of policy advice requires new forms of technical assistance. Through an advisory group on industrial

policies, UNIDO aims to make available experts of a very high calibre for short periods (for example, from three to six weeks); for such assignments, experts who would not normally be available for longer-term technical assistance assignments (for example, senior civil servants, bankers and businessmen) can be considered for recruitment.

During the discussion at the International Symposium, it was recommended that more of UNIDO's resources be applied to practical field programmes, and in particular to formulating programmes of assistance. Experience has shown that the formulation and subsequent supervision of technical assistance assignments on industrial policies can be improved if the type of assistance needed is thoroughly investigated at the outset by a UNIDO staff member. This is particularly true for technical assistance implemented by an advisory group on industrial policies where considerable preparatory work needs to be undertaken. There are also many technical assistance assignments where the urgency, short-term nature or subject of the request makes it appropriate to use the experience of a UNIDO staff member rather than delay implementation of the assistance while an outside expert is recruited.

Experience has also shown that the quality and efficiency of technical assistance provided by experts recruited by UNIDO can be improved when they develop closer links with UNIDO headquarters staff specializing in industrial policies. Some of the experts advising developing countries on industrial policies can be brought to Vienna in the middle of their assignments to discuss with other experts and UNIDO staff the problems that have arisen in implementing their assignments and the progress made. UNIDO staff members can visit experts in the field on their assignments with the same purpose in mind. In both ways, UNIDO headquarters staff specializing in industrial policies will be able to identify more clearly the type of supporting activities that UNIDO experts in the field require from headquarters.

A series of training programmes in the form of seminars has been launched dealing with the formulation and implementation of industrial policies. These seminars provide an opportunity for high-ranking officials of developing countries to review the experience of other developing countries and recent developments in the body of knowledge on the effect of industrial policies on industrialization; a key feature of each training programme is that participants are asked to play the role of policy-maker in selected case studies. Some of the participants at these seminars are the counterparts with whom UNIDO experts are working in the field.

During the Symposium, it was recommended that UNIDO investigate the use of fiscal incentives and similar measures to promote industrial development. The first training programme in this series, an Interregional Seminar on Incentive Policies for Industrial Development, was held in Vienna in March 1969; it was attended by 25 participants. In 1970, a regional seminar is planned for participants from Latin American countries dealing in depth with selected aspects of industrial policy; this will be organized in co-operation with ECLA and ILPES. Similar regional and interregional seminars are planned for the following years.

SUPPORTING ACTIVITIES IN THE FORM OF RESEARCH AND STUDIES

The programme of research and studies is designed to develop the knowledge and experience needed by UNIDO staff and field experts for advice in the field, for training programmes and for publications. It aims at developing a body of knowledge on the effects of industrial policies on the rate, direction and quality of industrial growth in developing countries. The experience of formulating and implementing industrial policies in both developing and developed countries is being examined. The studies cover the following major areas:

The relationship between the objectives of the industrialization programme and the plans and policies used to achieve them;

The set of industrial policies and policy measures used by selected countries to promote, guide and control the implementation of industrial development programmes;

The design of specific types of industrial policy measures;

The administrative machinery used to implement plans and policies;

The policies and measures used to implement regional co-operation in the field of industrial development.

It was envisaged at the Symposium that UNIDO would become one of the acknowledged centres for research and the collection of studies on industrial policies carried out by other organizations, universities and so on. To help co-ordinate world-wide research activities in this field and to ensure that the advice contained in UNIDO's publications on industrial policies is the best available, an advisory panel of consultants on industrial policies will be convened in 1970.

PUBLICATIONS

These studies, the accumulated experience of UNIDO and its field experts, and the research conducted by other organizations and universities will be used to prepare a series of manuals on the formulation and implementation of specific types of industrial policy measures. The intention is to digest the best information and advice available in a readable presentation which can be easily used by officials of developing countries and UNIDO experts. Experience has shown that it is difficult to develop any standard form of instruction on so complex a subject as the formulation and implementation of specific types of industrial policy measures. However, these manuals will outline the criteria and other factors which can be considered when specific industrial policy measures and the machinery needed to implement them are being reviewed. Manuals on the following subjects are being considered for publication:

Incentive policies and measures;

Government assistance at the pre-investment stage of project formulation;

The tariff structure and other forms of protection;

Systems and criteria for licensing new industrial investment;

Measures to raise the locally produced content of selected manufactured goods;

Measures governing the terms and conditions of foreign financial investment;

Measures on the purchase of foreign technical know-how.

Annex 1

UNIDO ASSISTANCE IN THE FIELD OF INDUSTRIAL POLICIES

A. AREAS IN WHICH UNIDO IS IN A POSITION TO PROVIDE TECHNICAL ASSISTANCE

- Formulation of a long-term industrialization policy;**
- Determination of the effect of general economic policies, industrial policies, and specific industrial policy measures on the rate, direction and quality of past industrial development;**
- Modification of existing economic policies, industrial policies and industrial policy measures with reference to future industrialization programmes;**
- Examination of the effect of one specific type of industrial policy measure (for example, tariffs and other forms of protection) on the rate, direction and quality of past industrial development;**
- Formulation of policies and policy measures designed to attract foreign investment;**
- Formulation of specific types of industrial policy measures (for example, tax incentives, systems and criteria for licensing new investment in industrial projects, assistance at the pre-investment stage of project development etc.);**
- Examination of policy problems faced in individual branches of industry (for example, textiles, automobiles, electrical engineering, pharmaceuticals);**
- Review of existing administrative machinery, institutions and agencies used to implement the package of policies and industrial policy measures and their adaptation to meet new circumstances. Such a review would include a detailed review of criteria and other decision-making procedures;**
- Modification of existing sets of policies and industrial policy measures, formulated at national levels, to meet the requirements established by agreements on regional co-operation.**

B. SELECTED MAJOR TECHNICAL ASSISTANCE PROJECTS

The projects listed below relate to the activities of the United Nations Industrial Development Organization since its establishment in 1967. The list excludes projects carried out under the predecessor organizations of UNIDO (the former Division of Industrial Development up to 1962 and the Centre for Industrial Development up to 1967). Since the projects are listed for illustrative purposes, the names of countries have been omitted. The programmes under which the projects are implemented are shown as:

SIS	Special Industrial Services of UNIDO
UNDP/TA	United Nations Development Programme, Technical Assistance Component
UNDP/SF	United Nations Development Programme, Special Fund Component
RP	Regular Programme

(1) *Projects implemented or under implementation by UNIDO in the field of industrial policy*

THE AMERICAS

Assistance in drawing up policies for further industrial development and in co-ordinating the policies of various Ministries concerned with industrial development (SIS)

Review of industrial policies and formulation of future guidelines; review of fiscal incentives and of the criteria and procedures used to administer them (UNDP/TA)

Formulation of industrial policies and review of their effect on specific industrial sectors (UNDP/TA)

ASIA AND THE FAR EAST

Advice on appropriate policies to implement the industrialization programme (SIS)

Advice on the design of certain specific types of industrial policy measures (UNDP/TA)

Review of the package of industrial policies and policy measures with a view to the achievement of the objectives of economic and industrial development (SIS)

Review of policy problems in selected branches of industry (SIS)

EUROPE AND THE MIDDLE EAST

Advice on a system for licensing new industrial projects and the expansion of existing plants (SIS)

Advice on incentive measures for industrial development (SIS)

Annex 2

MEETINGS, TRAINING SEMINARS AND WORKING GROUPS ORGANIZED BY UNIDO

	<i>Location</i>	<i>Date</i>
Interregional Seminar on Incentive Policies for Industrial Development	Vienna	March 1969
Interregional Seminar on Financial Aspects of Public Manufacturing Enterprises	Rome	December 1969
		<i>Proposed date</i>
Seminar on Selected Aspects of Industrial Policies: Latin America (UNIDO/ECLA)		1970
Seminar on Selected Aspects of Industrial Policy (countries served by UNESOB) (UNIDO/UNESOB)		1970
Interregional Seminar on Tariffs and other Forms of Protection		1971

ANNEX 3

SELECTED LIST OF DOCUMENTS AND PUBLICATIONS ON GENERAL ISSUES OF INDUSTRIAL POLICY¹

UNITED NATIONS

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Development Survey, Vol. I. (ID/9) (Sales No.: 68.II.B.18).

Report of the Interregional Seminar on Industrial Location and Regional Development (held in Minsk from 14 to 26 August 1968) (ID/19) (Sales No.: 69.II.B.22).

Issues and Problems in Manpower Development for Industrialization, 1967 (ID/CONF. 1/30) (mimeo.).

Skill Requirements for Industrialization, 1967 (ID/CONF. 1/31) (mimeo.).

Effective Utilization of Manpower for Industrialization, 1967 (ID/CONF. 1/32) (mimeo.).

Education and Training Programmes for Industrialization, 1967 (ID/CONF. 1/33) (mimeo.).

Policies and Plans of Developing Countries Regarding the Public Sector in Manufacturing Industries, 1967 (ID/CONF. 1/B. 13) (mimeo.).

ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST

Economic Survey for Asia and the Far East, 1964 (Sales No.: 65.II.F.1).

ECONOMIC COMMISSION FOR LATIN AMERICA

The Process of Industrial Development in Latin America (Sales No.: 66.II.G.4).

¹ Symbols and Sales Numbers of United Nations documents and publications are given in parentheses after the titles.

INTERNATIONAL LABOUR ORGANISATION

International Standard Classification of Occupation, 1958.

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Bhagwati, J. N. and P. Desai, *India: Planning for Industrialization*, Oxford University Press for the Development Centre of OECD, London, 1970.

Commission on International Development (Chairman: L. B. Pearson) *Partners in Development*, Praeger, New York, 1969.

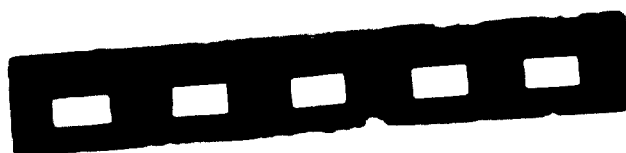
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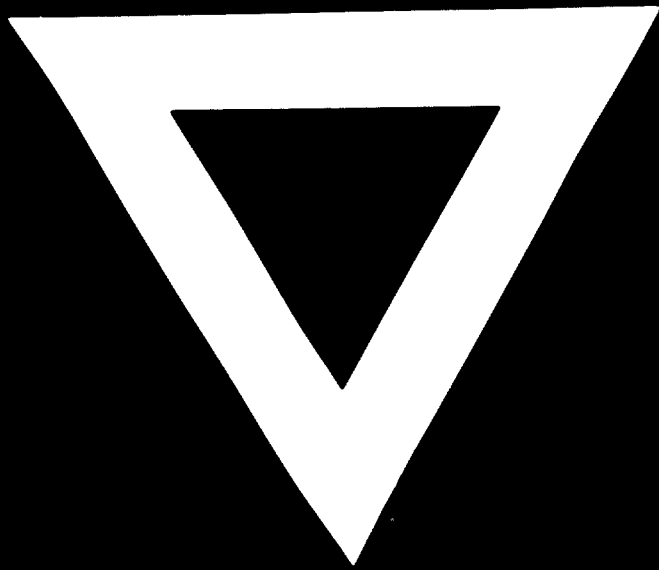
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Power, J. H., G. Sicat, and Mo-hun Hsing, *The Philippines and Taiwan: Industrialization and Trade Policies*, Oxford University Press for the Development Centre of OECD, London, 1970.

Servan-Schreiber, J. J., *American Challenge*, Hamilton, London, 1968.





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